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ABSTRACT

This learning package is a three-semester-hour, independent-study course in principles of economics designed for postsecondary, external degree students. Keyed to the commercially published textbook "Economics Today" (San Francisco, CA: Canfield Press, 1975), the package consists of an administrator manual, a student manual, 14 audiotapes, and a student unit study guide. The manuals describe the course and outline the roles and tasks of the tutor/grader and student. The audiotapes contain supplementary readings. The study guide, which serves as the student's instructor telling him what material should be read, when to read it, and how to evaluate his progress, contains specific objectives, diagnostic tests and keys, and supplementary readings for the eight units which comprise the course. Among these units are introduction to economics; assessing the nation's economic performance; introduction to the Keynesian theory of national income determination; and money, the banking system, and interest rates. Students read the objectives of each unit and take a diagnostic pretest. The guide refers them to textbook and supplementary reading assignments for items missed. Students check their mastery of objectives with posttests. Final exams are required. Only the administrator manual and the unit study guide are on microfiche. Hard copies of the learning package, with or without the textbook and including the examinations and audiotapes, are available from the Institute for Personal and Career Development. (Author/RM)

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Principles of Economics

Course Administrative Manual

G. Jeffrey Barbour, Ph.D.

SO 009503

Institute For Personal And Career Development
Central Michigan University Press
Mt. Pleasant, Michigan 48859

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Preface

The course, Economics 201, as provided in this self-instructional package is equivalent in content and number of credit hours to the course of the same title offered at Central Michigan University in the Department of Economics. Economics 201 is generally regarded as part of the basic two-course introductory sequence in economics. As such, it introduces the student to the discipline of economics and provides the necessary background in macroeconomics to permit the student to take more advanced economics courses. (The microeconomic half of this background is provided by Economics 202).

The purpose of the course is to introduce the student to "the economic way of thinking." Each objective in each unit is designed to help the student develop and utilize this "economic way of thinking." It is important for both student and instructor to keep in mind that economics is not a sequence of facts but a way of looking at the world.

The course is divided into eight major areas of study as indicated by the eight units of the course:

I. Introduction to Economics
II. Assessing the Nation's Economic Performance
III. Basic Sectors of the Economy
IV. Introduction to the Keynesian Theory of National Income Determination
V. Money, the Banking System, and Interest Rates
VI. A More Complete Keynesian Model
VII. The Monetarist Challenge to Keynesian Economics
VIII. Economic Growth and the Environment

Units one and two introduce the student to economics and macroeconomics respectively. Units three through six teach the student how Keynesian economists view economic activity. Unit seven demonstrates that the Keynesian ideas regarding the economy are not held by all economists. Unit eight introduces the student to the complexities that arise when economic growth over a period of time affects the society, its attitudes, and its living environment

THE TUTOR

THE TUTOR'S ROLE

It is most important for the tutor to become very familiar with the course textbook, the instruction provided by the student's study guide, the nature of self-instruction, and this manual. Familiarization with study materials will facilitate the understanding of learner problems.

Tutors may not change the course in any manner. The course content, instructional sequence, instructional strategies, and evaluation instruments will be changed only through the systematic processes of instructional technology under the supervision of professional developers. Because of the objective nature of learning criteria for this course, the tutor has almost no interpretative role to perform.

Tutors must be available to students to help them when they encounter problems. Normally, contacts will be initiated by the student by telephone; however, students may occasionally wish to personally visit the tutor. Tutor/student contacts should be recorded and the student's problem explained for evaluation purposes. Tutors should submit explanations to the Institute for Personal and Career Development. Eventually, when the course has been revised to satisfy learner needs, the tutor/student contacts should be minimal.

COUNSELING AND REFERRAL

Counseling of students should include emphatic suggestions for use of materials as they are designed. It should also encourage students to establish timetables for accomplishing the objectives for each unit as follows:

UNIT	TIME SCHEDULE (HOURS)
I.	20
II.	20
III.	20
IV.	30
V.	30
VI.	30
VII.	20
VIII.	10
	180 hours total

EVALUATION PROCEDURES AND MATERIALS

The student is required to take eight end-of-unit examinations in sequence. If a student scores less than eighty percent on a given end-of-unit examination, he should be encouraged to review the unit, carefully studying those objectives for which he was not able to correctly answer test items in order to improve his chances of success on the later units.

Both self-diagnostic tests are equivalent to the end-of-unit examination. No comprehensive final examination is required.

Whenever a student fails a formal unit exam, the tutor should admonish that student to use the materials--especially self-diagnostic examinations--as they are designed.

The examinations will all be multiple-choice. The percentage score on each of the eight examinations will be averaged to assign the final grade. The student will consequently be able to measure her performance at any point by simply averaging the scores of completed unit exams.

On all exams, all rounding will be upwards to the nearest whole percentage point. For example a score of 79.12% will be recorded as 80%. The reason for this is that it is not desirable or possible to assign partial credit to the multiple-choice questions used.

The course tutor will in all cases adhere strictly to the evaluation guidelines presented here. No changes are acceptable.

SCHEDULES AND SCHEDULING

The course can be completed in the time ordinarily devoted to a three-semester-hour university course. Only special circumstances should be considered as reasons for students to require more than six months to complete it.

Because the course is completely delivered in one package and evaluation is accomplished with easily corrected examinations, students may start the course at any time convenient to their schedules.

PHILOSOPHY

Economics 201 has been designed for the learner. Its logical organization assists the student in mastering the objectives of the course, and its content emphasizes practical application rather than consideration of theory as such. However, economic policies can be conducted only with a sound foundation in economic theory. Consequently, the student should emerge from the course with a sufficient grasp of the principles which underlie macroeconomic theory to be able to sensibly evaluate the basic soundness of economic policy actions taken at the federal level. The student's ability to learn as specified by course objectives and her appreciation for the practical aspects of the subject matter serve as motivational stimuli to continue study and complete course requirements.

Self—Instructional Materials

Students receive a student manual to explain the instructional procedures, a study guide to direct them to appropriate study material, a textbook, and fourteen audiotapes. The textbook is one of three primary instructional resources for the course; others are the supplemental material provided in the Study Guide and the audiotapes. These three resources are of approximately equal importance. Students can attain all performance objectives for the course through proper use of these materials.

After studying the Student Manual, the learner reads the introduction to the course in the Study Guide where the procedures for success in the course are explained in detail. In reading the Study Guide, the students also learn about the sequence of learning which is designed into the course and observe a "study map" in the introduction to the course.

The procedure for completing each unit is best explained by the map on page 7 (also found in the Study Guide for student use).

The following procedure should be used by most students in completing each unit.

The student first should carefully examine the performance objectives. At this time, if she feels capable, she may attempt form A of the self-diagnostic test; however, since few students who have a background in economics will be taking this course, very few will be able to take this test before first reading the textbook material assigned for the unit. Consequently, after reading the objectives, the student should read this textbook material and then attempt form A of the self-diagnostic test. After comparing her answers with the answer key, she should refer to the study directory to guide her through the supplemental materials, paying particular attention to those objectives concerning areas with which she may have had difficulty on form A of the self-diagnostic test. After diligently covering the unit's supplemental materials--both in the *Study Guide* and on *Audiotapes*--she can then again refer to form A of the self-diagnostic test as a study guide to locate areas which need additional review.

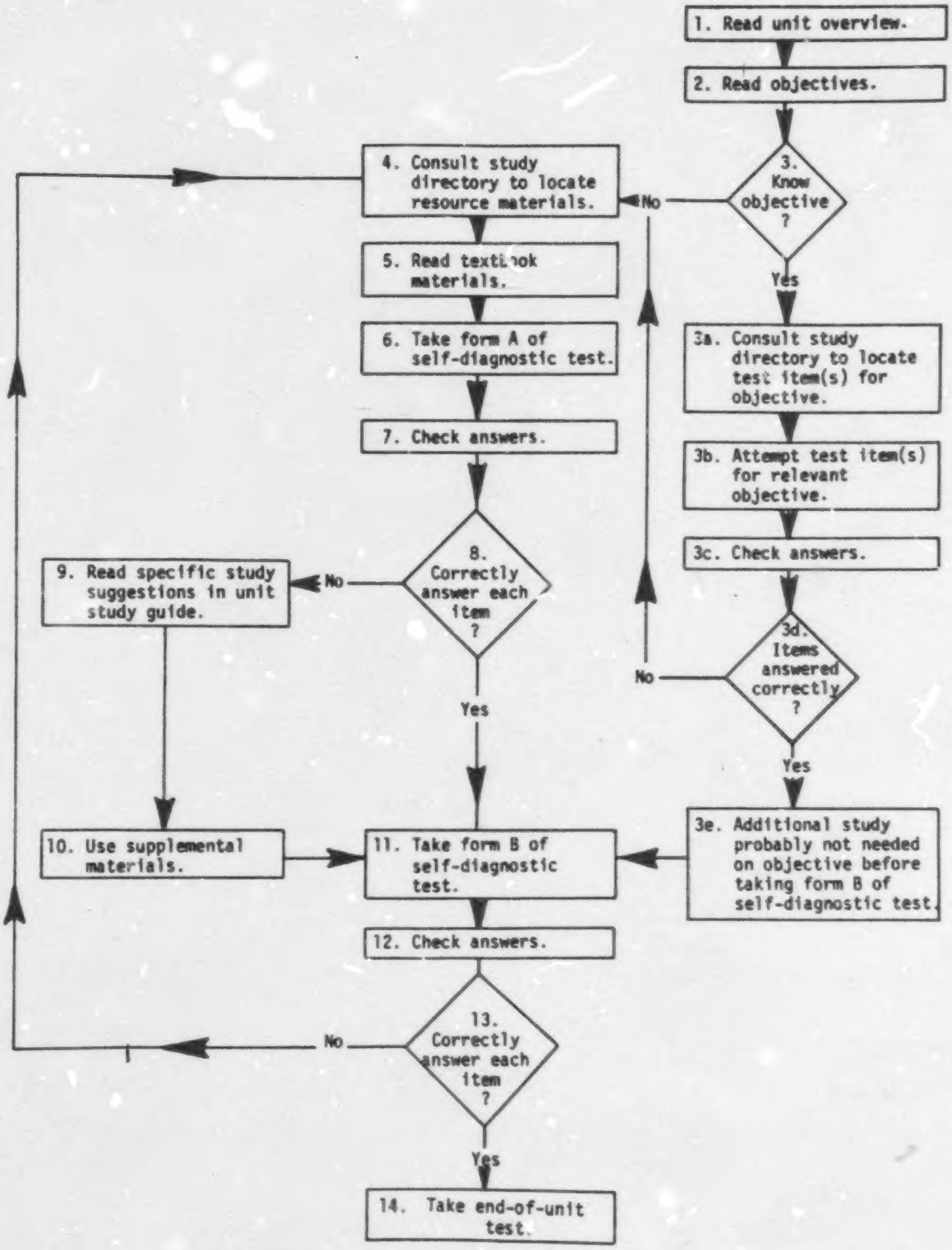
When the student feels ready to take the end-of-unit credit examination, he should take *form B of the self-diagnostic test*. If he attains a score of eighty percent or higher on this self-diagnostic test, he is probably ready for the end-of-unit test (a score of eighty percent or higher corresponds to a grade of "A" on the end-of-unit test). Nevertheless, the student should not request the end-of-unit examination until he is sure he understands the answers to all of the questions on both forms of the self-diagnostic test.

It is important that the student does not become discouraged if he does poorly on form A of the self-diagnostic test. The supplemental materials include numerous topics not found in the textbook. In addition, these materials concentrate on areas of the subject matter which many students find difficult.

If the student uses the self-diagnostic tests correctly, he should be able to pass the formal end-of-unit examination. Therefore, tutors should remind those who fail unit tests or do poorly on them to take self-diagnostic tests *only when they feel sure* they can pass them. Students frequently use these exams as exercises for practice, and this pattern spoils the self-diagnostic value of the exams. *This is particularly important in this course*. The student will be tempted to use the self-diagnostic tests as study guides. The tutor should strongly advise against this practice.

Occasionally, a student may feel that he knows enough about the unit objectives that further study over these objectives is not necessary. Such students *will* wish to use the self-diagnostic test (form A) as a pretest. This is an acceptable alternative throughout the course, but most students taking this course will not have the economics background to follow this method. It is very important, however, that even these students do the assigned reading and use the *entire* package of supplemental materials. The course material is cumulative. Attempting to save time by skipping material in early units will almost certainly cause subsequent difficulty for the student.

THE STUDY MAP


1. Read unit overview.
2. Read objectives.
3. Know objective ?
No
Yes
3a. Consult study directory to locate test item(s) for objective.
3b. Attempt test item(s) for relevant objective.
3c. Check answers.
3d. Items answered correctly ?
No
Yes
3e. Additional study probably not needed on objective before taking form B of self-diagnostic test.
4. Consult study directory to locate resource materials.
5. Read textbook materials.
6. Take form A of self-diagnostic test.
7. Check answers.
8. Correctly answer each item ?
No
Yes
9. Read specific study suggestions in unit study guide.
10. Use supplemental materials.
11. Take form B of self-diagnostic test.
12. Check answers.
13. Correctly answer each item ?
No
Yes
14. Take end-of-unit test.

Possible Problem Areas

The following comments cover specific portions of the course that may be possible problem areas for students. The tutor is expected to report further problems to the Institute for Personal and Career Development.

HOW TO USE THIS PACKAGE

1. Format: The student reads the "How To Use This Package" section in the Study Guide which explains the procedure for progressing through the course, examines a unit study map, and reads a summary of unit goals.

2. Possible problems related to the use of self-instructional materials

    a. The student may fail to read the Student Manual prior to starting the Study Guide. This will deprive the student of some insight into the format and how to use materials.

    b. The student may fail to read the "Instructions" section of the Study Guide. If the student does not understand the material in this section, he will have difficulty completing the course.

    c. Occasionally a student will be confused by the flow chart called the unit study map. The tutor who gets phone calls about this problem should ask the student to look at the map in her Study Guide while the tutor directs the student through the problem-solving process explaining each step as indicated by arrows.

3. Potential Problems Related to the Study of Economics

   a. The most fundamental error a student can make is to fail to understand the purpose of this course: to teach the student "the economic way of thinking." If the student fails to perceive this goal, he may very quickly run into serious difficulty. Each objective in each unit is designed to help the student utilize "the economic way of thinking."

   b. A second fundamental problem may result from the failure of the student to acquire a sufficient mastery of a working economics vocabulary. Terms such as demand, supply, or investment have very precise meanings. To be successful in this course, the student must be very careful to acquire knowledge of the exact economic meaning of such terms.

UNIT 1. INTRODUCTION TO ECONOMICS

a. Some students may find the choice of examples in the text and/or study guide distasteful. If this problem develops, it is important for the tutor to explain that there are two explicit reasons for using examples such as prostitution, abortion, and marijuana. First, like it or not, these industries exist and are just as real as the dairy industry (or other more socially respectable industries). All of these activities exist primarily for economic reasons. Second, these examples are very valuable in helping us recognize the importance of separating our value judgments from any positive analysis we undertake. While one may very well be violently opposed to prostitution for moral reasons, it still is relevant to determine just how much it costs society to keep prostitution illegal.

b. Poor performance may result from insufficient use of the instructional resources. Impress upon the student the fact that one reading of the text or one review of the supplemental materials will generally be inadequate. This should be the first suggestion to students who have done poorly.

c. Students who have never experienced a self-instructional course will be learning to use one in the first unit. Students may try skipping or skimming which will generally result in poor performance on the end-of-unit test.

UNIT II: ASSESSING THE NATION'S ECONOMIC PERFORMANCE

a. Students may experience some difficulty adjusting to the use of taped supplemental materials. Individuals experiencing difficulty at this point should be strongly advised to carefully work through the taped materials (and not to just casually listen to the tapes).

b. Objective 1: Many students may have difficulties with production possibility analysis. One key cause of these problems is the fact that to an individual one product usually is more desirable than another. Students often realize this and invalidly make the generalization that the same is necessarily true for society. It is not at all certain that this generalization is acceptable. Of more importance, however, is the fact that economics has not yet successfully developed any method of measuring the collective desires of a large group of people (i.e., a society). The important thing the student must see at this point is that certain choices can be compared without making value judgments; others cannot.

c. Objectives 2, 4, and 10 are related. They deal with the system of national income accounts currently in use in the U.S. and the strengths, weaknesses, and uses of these accounts. This section of the material tends to bore many learners, who pass over it lightly. This should be strongly discouraged since this section of the materials contributes significantly to the individual's general education.

d. Students may not understand the importance of the performance objectives. After they take the self-diagnostic tests and then the formal examination for unit one, they should realize the importance of objectives in specifying areas of emphasis for study.

e. Many learners may incorrectly use the self-diagnostic tests. This may be particularly true of experienced IPCD students who are accustomed to using a pretest as a study guide in many courses. This practice is strongly discouraged in this course. Both self-diagnostic tests should be put to their proper uses.

f. Some students may have a problem working with graphs. In this case, the student should be advised to consult a local library for a text illustrating the use and meaning of graphs. Graphical illustrations will be used throughout the course. The time to solve problems in this area is now.

g. Students often have difficulty distinguishing between changes (i.e., shifts) in demand and supply vs. changes in the quantity demanded or supplied (i.e., movements along existing demand or supply schedules). The tutor should be prepared to handle these problems when they arise. The supplemental materials for objective ten focus on this problem.

UNIT III: BASIC SECTORS OF THE ECONOMY

a. Objectives 2, 3, and 4 are general education objectives. Some students will tend to skim the assigned readings over these objectives. This practice should be discouraged.

b. Objective 6. Some learners have difficulty separating their value judgments from the positive analysis of alternative ideas about the financing of government activity. While it is sensible for each person to develop his own value judgments in this area, he must be willing to: (1) consider and analyze these issues in the absence of value judgments; and (2) accept the fact that other individuals are likely to form different value judgments.

c. Objective 7. Many learners have serious problems understanding how progressive taxation really works. The most severe difficulty seems to be inability to understand the fact that it is the pattern of variation in the marginal tax rate which determines whether a tax system is regressive, proportional, or progressive. Also, many learners are obstinately unwilling to abandon a popular but erroneous myth. It is impossible to lose money by moving into the next higher tax bracket no matter how progressive the tax system. The assigned materials stress these points, but some students will miss them. The tutor should urge diligent use of these materials.

d. Objectives 8 through 13 set the framework for the study of both Keynesian and monetarist economics in subsequent units. Students who are unable to demonstrate complete mastery of these objectives should be strongly advised to carefully review these materials before attempting further units.

UNIT IV: INTRODUCTION TO THE KEYNESIAN THEO OF NATIONAL INCOME DETERMINATION

a. It is very important for the student to avoid the serious error of thinking the world began in 1971. Elementary Keynesian economics does not explain the current (1975) period of inflation plus recession very well; yet the simple topics must generally be mastered before complex topics are discussed. Normally, both rapid inflation and high unemployment do not take place at the same time. This course concentrates on the elementary principles of macroeconomics--it does not cover all the rigors of economic theory and analysis. This logic may have to be explained to some students.

b. Objective 5 is *crucially* important. Each student should thoroughly master this objective before proceeding further. Some learners will get lost in the numerical illustration and fail to see why this objective is so important. It illustrates how the economic system responds to changes in major aggregate variables and must be mastered in order to sensibly discuss attempts at controlling the economy's performance. The numerical illustrations and examination questions are simply tools to (a) help the student grasp the ideas presented in the material; and (b) make it possible for the student to test her comprehension of this material.

c. Objective 8. The materials which cover this objective *do not* present new economic relationships. Rather, they present an alternative method of illustrating the fundamental principles of Keynesian economics. Either of the following equations can be used to describe a no-government economy in a state of equilibrium:

$$\left.\begin{array}{l}(1)\ Y = C + I\\ (2)\ S = I\end{array}\right\}\quad \text{Where both savings and investment refer to desired quantities}$$

The materials for Objective 8 illustrate the second approach. Some individuals may have difficulty understanding that both statements present the same information. In this case, review should be recommended.

UNIT V: MONEY, THE BANKING SYSTEM, AND INTEREST RATES

a. Objective 1. The idea that most of the money supply in the U.S. is not "backed" by anything (i.e., silver, gold) is difficult for some people to accept. It is true. Myths are sometimes hard to abandon, and this unit will cause difficulty for the obstinate.

b. Objective 3. Commercial banks can create money. Some learners have difficulty accepting this, yet it is crucial that they understand why and how commercial banks create money before proceeding further in the course or unit.

c. Objectives 4 and 5. The numerical illustrations presented in the supplemental materials are primarily tools to: (a) help the student understand the role of commercial banks in the monetary system; and (b) facilitate evaluation of the student's comprehension of this role. It is very important that the student go beyond rote memorization at this point. The tutor should suggest to any individual experiencing difficulty that perhaps he has been memorizing without sufficient understanding.

UNIT VI: A MORE COMPLETE KEYNESIAN MODEL

a. Throughout this unit, the student may need to be cautioned against concentrating solely on the numerical illustrations, per se. These illustrations, as usual, are designed to help the student understand the relationships discussed and evaluate his comprehension of them. The relationships are the important consideration, and any formulas illustrating them should be known and understood, not just memorized.

b. Objectives 5, 6, 7, and 9. Realistically, there is only one important Keynesian multiplier--the one at work within our economy. The several multipliers utilized in this section are illustrations to reinforce the student's understanding of Keynesian economics. Yet occasional students will become bewildered by the differences in these multipliers. If a student experiences difficulty at this point, she should be strongly encouraged to work through the supplemental materials until she can readily see which multiplier applies in each situation described. Some individuals may find it necessary to start this review with the appropriate sections of unit four. The soundest advice is simply to review the materials as many times as necessary.

c. Objective 12. Difficulty with this objective will likely indicate difficulty in the next unit. Students who have problems at this point should be advised to continue very carefully and slowly with unit seven.

UNIT VII: THE MONETARIST CHALLENGE TO KEYNESIAN ECONOMICS

a. Objectives 1, 2, 3, 6, 8, and 9 relate to a similar goal: understanding why Keynesians and monetarists disagree and what they disagree about. The materials assigned for each of these objectives illustrate one (or several) important aspects of this controversy. Each objective is designed to indicate to the student one way in which he will be expected to demonstrate mastery of the essential elements of Keynesian/monetarist disagreement. It may be necessary to caution the individual student (if problems arise) not to lose sight of the purpose of the unit.

b. The text does not really present a balanced view of the two sides in this controversy; the supplemental materials restore this balance. The divergence of coverage may confuse some students. In the event such confusion arises, it may be necessary to very explicitly explain to the student that the divergence in points of view is intentional. After all, a controversy, by its very nature, implies disagreement.

UNIT VIII: ECONOMIC GROWTH AND THE ENVIRONM

a. Some students will continue to have difficulties in this unit because they will resist objectively analyzing the controversial topics covered, apart from their own value judgments. Students facing this problem should again be strongly advised that: (a) it is important to get as much information as possible about these topics using purely positive analysis, and (b) people's value judgments differ.

b. Objectives 2, 3, and 9. Some students cherish the notion that the only "fair" solution to pollution problems is to "make the polluter pay." This may or may not be true, but where corporations are involved, it may be economically impossible to do so. After all, people pay, not corporations. This fact may need to be emphasized to students having difficulty with these objectives.

c. Objectives 4, 5, and 6. Again, the student's own value judgements may give him problems. Topics such as zero population growth (ZPG) are controversial. Whether or not an individual supports or opposes one of these ideas, he must realize that other people have reasons for holding different value judgements. The student having difficulty should be reminded of this fact.

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Principles of Economics

UNIT STUDY GUIDE

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INSTITUTE FOR PERSONAL AND CAREER DEVELOPMENT
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Acknowledgments

Among the materials for this learning package are a 384-page Unit Study Guide with over a hundred illustrations and fourteen audiotapes. The people who made the development of this course possible deserve a tremendous round of applause: Jeff Barbour, who wrote and revised the Unit Study Guide and 284 pages of audio-scripts; Beverly Remillard and Mark Wysong, who patiently subjected the initial drafts of the materials to formative evaluation; Faye Boynton, who typed and retyped much of the Unit Study Guide and the audio scripts; and Sandy Robb, Dotty Myers, Carrie Sales and Shirley Stevens, who also assisted in the typing of the materials.

The assistance of graphics and recording services personnel is especially appreciated. The following graphics personnel contributed over 300 hours to the project, doing approximately 100 illustrations and adding numerous other professional touches to the Unit Study Guide: Doug Thering, who contributed many hours of effort to the project, Jean Parker who assisted with the illustrations, and Dennis Pompilius, who coordinated the graphics work as well as doing many of the illustrations.

The recording of the audiotapes for this learning package required a tremendous amount of effort and Mark Royer is to be especially commended for getting this job done.

Finally, I would like to acknowledge the editorial assistance of Donna Born. Actually it is somewhat of a misnomer to label Donna's assistance as editorial, since after the necessary revisions were completed by the subject-matter specialist, she assumed many of the responsibilities of a project manager, coordinating the work which was constantly being shuttled back and forth among typists and the graphics and recording services departments to assure the integrity of the final product.

To all those in the Division of Instructional Resources who contributed their efforts to the development of this learning package, THANKS MUCH!

Judith E. Garrett
Instructional Designer

HOW TO USE THIS PACKAGE

MATERIALS IN THE PACKAGE

This course in the Principles of Economics is self-instructional. In other words, you should be able to successfully complete this course using only the materials in this package without the assistance of an instructor.

The package of materials for Economics 201, Principles of Economics, contains the following materials:

1. Student manual: Principles of Economics: Student Manual. Mt. Pleasant, Mich.: Central Michigan University Press, 1975.
2. Textbook: Roger Miller, Economics Today. San Francisco: Canfield Press, 1973.
3. Study guide: G. Jeffrey Barbour, Principles of Economics: Study Guide. Mt. Pleasant, Mich.: Central Michigan University Press, 1975.
4. Audiotapes: Fourteen audiotapes

TEXTBOOK

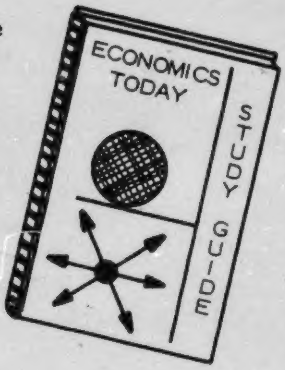
The textbook for this course is Roger Miller's Economics Today. The Unit Study Guide indicates which sections of the textbook should be read for each unit of the course. Particularly helpful in preparing for each end-of-unit test is the list of definitions which Miller provides at the end of each chapter.

STUDENT MANUAL

The Student Manual contains all of the "administrative" information you will need to know in order to complete the course, such as, procedures for requesting and taking tests, contacting IPCD when you need help, and grading policies. If this is your first IPCD course, you should read the Student Manual now, before reading any further in the Unit Study Guide.

UNIT STUDY GUIDE

The third item in the package of materials for this course is the Unit Study Guide which you are now reading. The Unit Study Guide is one of the most important components of the package of materials for the course since it will serve as your instructor--it tells you which parts of the textbook should be read and when, and it provides methods to check your progress throughout the unit. The use of the Unit Study Guide is explained in greater detail in the following section.



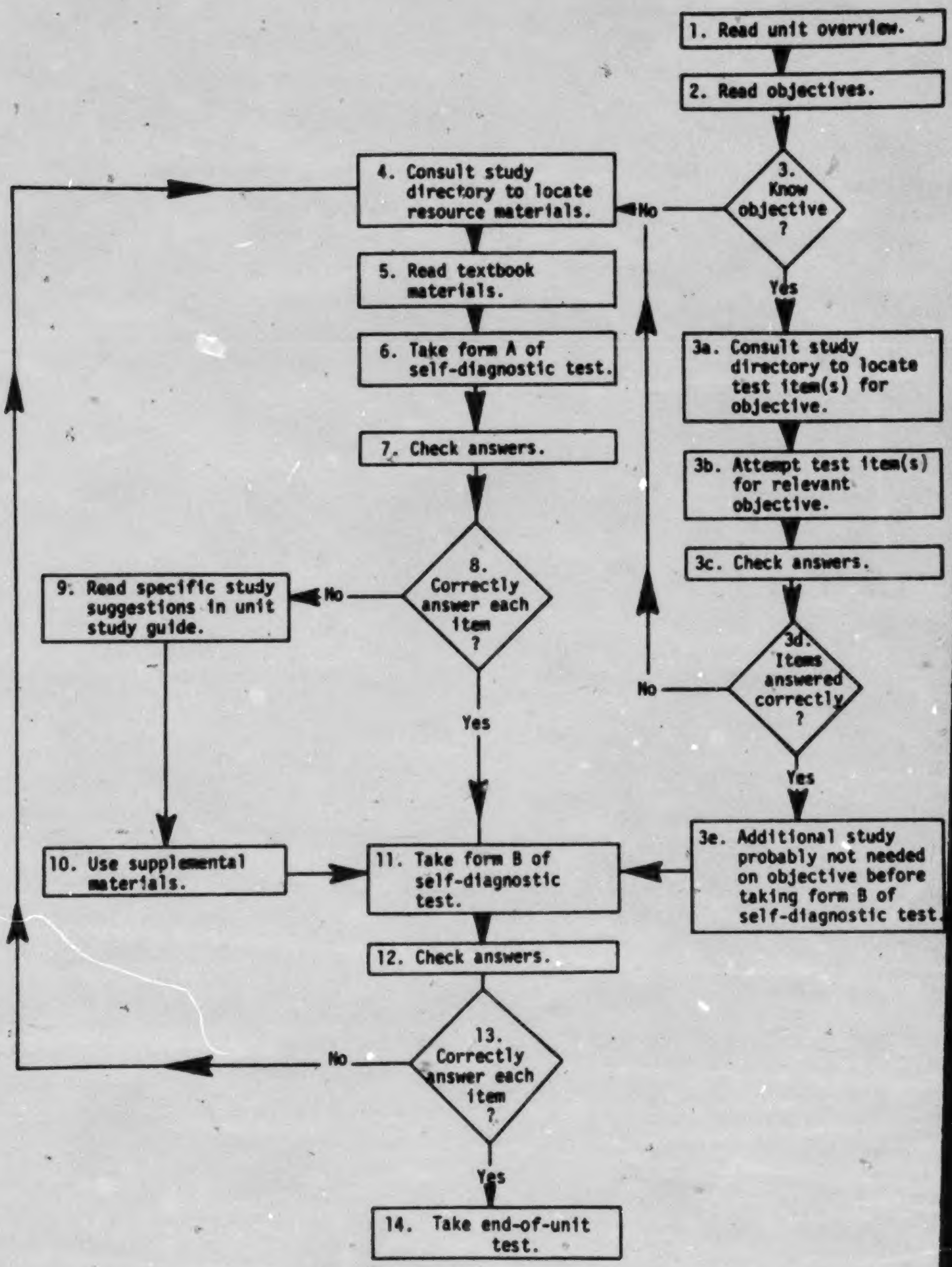
HOW TO USE THE UNIT STUDY GUIDE

The Unit Study Guide for this course is divided into eight sections--one section for each unit of the course. Each section of the Unit Study Guide includes the following items arranged in the same order in each section:

1. Overview
2. Objectives
3. Self-diagnostic Test Form A
4. Answer Key--Self-diagnostic Test Form A
5. Study Directory
6. Specific Study Suggestions
7. Supplemental Materials
8. Self-diagnostic Test Form B
9. Answer Key--Self-diagnostic Test Form B

The purpose of the above items is to make this course self-instructional. The Study Map shown in the form of a flow chart on the following page shows how these items should be used to make each unit self-instructional. If you know how to "read" flow charts, the diagram on the following page will tell you how to proceed through each unit. However, if you've never "read" a flow chart before, you should carefully read the sections which follow the Study Map. Each section explains a step in the procedure for completing a unit (each step is identified in the Study Map on the following page).

STUDY MAP


1. Read unit overview.
2. Read objectives.
3. Know objective ?
No
Yes
3a. Consult study directory to locate test item(s) for objective.
3b. Attempt test item(s) for relevant objective.
3c. Check answers.
3d. Items answered correctly ?
No
Yes
3e. Additional study probably not needed on objective before taking form B of self-diagnostic test.
4. Consult study directory to locate resource materials.
5. Read textbook materials.
6. Take form A of self-diagnostic test.
7. Check answers.
8. Correctly answer each item ?
No
Yes
9. Read specific study suggestions in unit study guide.
10. Use supplemental materials.
11. Take form B of self-diagnostic test.
12. Check answers.
13. Correctly answer each item ?
No
Yes
14. Take end-of-unit test.

ORGANIZATION OF A UNIT

Since this Unit Study Guide will be your instructor for this course, you must understand the purpose of each item in the study guide and how it should be used, in order to successfully complete this course. You should, therefore, be sure you understand the organization of each unit before beginning the course. You will be given a chance to check your understanding of the organization of the course at the end of this section. If your answers indicate you don't understand how the course is organized, you should reread this section until you do.

1. Unit Overview

The first item in each unit study guide is a short introduction which provides an overview of the topics included in the unit. This corresponds to Step 1 on the Study Map.

2. Objectives

The second item in each of the eight sections of the Unit Study Guide is a list of performance objectives. These objectives tell you what you should know or be able to do at the end of the unit. This corresponds to Step 2 on the Study Map.

3. Self-diagnostic Test Form A

The third item in each section of the Unit Study Guide is Form A of the Self-diagnostic Test. If you already have some knowledge of basic economic principles and, after reading the unit objectives, have reason to believe you already know one or more of these objectives, you should (1) consult the Study Directory (located after the Answer Key for Form A of the Self-diagnostic Test) to locate the test item(s) over the objective(s), (2) attempt these items, and (3) check your answers against those given in the answer key which follows the test. If you answer these items correctly, you are probably ready, without much additional study, to take the End-of-Unit Test over these items. This corresponds to Steps 3 to 3e on the Study Map.

If you do not know any of the unit objectives, Form A of the Self-diagnostic test should not be taken until after textbook materials for the unit have been read (Step 5 on the Study Map).

4. Answer Key--Self-diagnostic Test Form A

Immediately following Form A of the Self-diagnostic Test is an answer key.

Your performance on this test is a good indicator of areas which need additional study before the End-of-Unit Test is taken. For all items which you are not able to answer on this test, consult the Study Directory to determine which objectives are tested by the incorrectly answered items.

5. Study Directory

Immediately following the Answer Key for Form A of the Self-diagnostic Test is a Study Directory which indicates the textbook and study guide materials which should be used for each objective. If you failed to answer a test item correctly in Step 3b on the Study Map, or if you did not attempt any of the items on this test immediately after reading the unit objectives, the Study Directory should be consulted at this point. Since the Study Directory also keys test items to specific objectives, this is a good place to mark off objectives as you learn them. This item in the Unit Study Guide corresponds to Step 4 on the Study Map.

The Study Directory for Unit 1 is on page 35 of the Unit Study Guide. At this point, you should take a few minutes to familiarize yourself with the Study Directory.

The Study Directory, one of the ways the Unit Study Guide serves as your instructor for this course, gives you the assignments for each objective, so you should always consult the Study Directory when you are ready to begin studying an objective.

6. Specific Study Suggestions

The use of the Supplemental Materials in the Unit Study Guide, and on the audiotapes is explained in this section of the Unit Study Guide. This section should always be studied carefully before any Supplemental Materials are read. This corresponds to Step 9 on the Study Map.

7. Supplemental Materials

This course is designed to be self-instructional, so whenever textbook materials are not adequate for teaching an objective, Supplemental Materials have been developed for that purpose and placed in the Unit Study Guide.

The Supplemental Materials are another feature of the Unit Study Guide which enables it to serve as your "instructor" for this course. Like an instructor, the supplemental materials can help you in many different ways. For example, they can point out things which you should be aware of as you read the textbook materials, they can summarize information presented in the textbook, or they can provide explanations not included in the textbook.

Suggestions as to the use of these "Supplemental Materials" are always given in the "Specific Study Suggestions" section which immediately precedes them, so you should always read the "Specific Study Suggestions" section before beginning to study the first objectives of a unit. This corresponds to Step 10 on the Study Map.

8. Self-diagnostic Test Form B

When you feel you have mastered all of the objectives for the unit, you should take Form B of the Self-diagnostic Test, which is similar to the end-of-unit test on which you will be graded. You should not take this test until you are reasonably sure you can answer each item correctly, so that when you take this test, you can look at your score and have a good idea of the score you would have received on the final end-of-unit test, had you taken it at this time.

This self-diagnostic test serves to identify areas in which you may need additional study before taking the actual unit test in much the same way as a conference with an instructor may help to identify areas where additional study is needed. This corresponds to Step 11 on the Study Map.

9. Answer Key--Self-diagnostic Test Form B

When you have answered all the items on Form B of the Self-diagnostic Test, check your answers with those given in the answer key for this test. This corresponds to Step 12 on the Study Map.

If you are able to answer all items correctly, you should also be able to answer all items on the formal end-of-unit test correctly, so you should request it at this point. If, however, you are not able to answer all items on the self-diagnostic test, you should restudy those objectives which appear to be causing difficulty, then attempt the self-diagnostic test over those objectives. The formal end-of-unit test should not be attempted until you are able to answer all items on the self-diagnostic test without difficulty. The procedure for taking the actual end-of-unit test is explained in the Student Manual. This corresponds to Step 14 on the Study Map.

EXERCISE

Remember that the procedure for completing each unit is the same. You will become more familiar with this procedure as you progress through each unit. However it is important that you become somewhat familiar with the procedure before you begin Unit I. The following exercise will allow you to check your understanding of how the course is organized before you begin the unit. Do this exercise before you begin Unit I.

Following is a list of statements about the order in which you should complete each unit, assuming you do not know any of the unit objectives. Number them to indicate the order in which they should be done in completing each unit. Check your answer by turning to page 12.

Take Self-diagnostic Test Form A

Use Supplemental Materials if necessary

Read Unit Overview

Check Answers with Answer Key for Form A of Self-diagnostic Test

Read Objectives

Take Self-diagnostic Test Form B

Read Textbook Materials

Read Specific Study Suggestions

Take End-of-Unit Test

Check Answers with Answer Key for Form B of Self-diagnostic Test

Consult Study Directory to Identify Textbook Materials for Each Unit

Consult Study Directory to Identify Supplemental Materials for Objectives Requiring Additional Study

ANSWERS TO EXERCISE ON PRECEDING PAGE

5. Take Self-diagnostic Test Form A

9. Use Supplemental Materials if Necessary

1. Read Unit Overview

6. Check Answers with Answer Key for Form A of Self-diagnostic Test

2. Read Objectives

10. Take Self-diagnostic Test Form B

4. Read Textbook Materials

8. Read Specific Study Suggestions

12. Take End-of-Unit Test

11. Check Answers with Answer Key for Form B of Self-diagnostic Test

3. Consult Study Directory to Identify Textbook Materials for Each Unit

7. Consult Study Directory to Identify Supplemental Materials for Objectives Requiring Additional Study.

IF YOU ANSWERED THE EXERCISE ON THE PRECEDING PAGE CORRECTLY, YOU ARE READY TO BEGIN UNIT I. DO NOT BEGIN UNIT I UNTIL YOU ARE ABLE TO DO THE EXERCISE ON THE PRECEDING PAGE CORRECTLY.

UNIT GOALS

Performance objectives are stated at the beginning of each unit of study; however, general goals for each unit of the course are as follows.

Unit I: Introduction to Economics

Demonstrate (1) an understanding of the nature and scope of economics: basic concepts of normative vs. positive analysis and partial vs. general equilibrium analysis; (2) the ability to explain and use fundamental tools of economists; (3) mastery of an elementary economics vocabulary; and (4) the capability of choosing the appropriate tools needed to analyze an economic case study and form logically consistent conclusions.

Unit II: Assessing the Nation's Economic Performance

Demonstrate (1) an elementary understanding of the concepts of market prices, national income accounts (and their component parts), and the international income distribution; (2) increased ability to use simplified economic tools, including basic economic models; and (3) the ability to use normative economics to form logically consistent value judgments as to how well our system of national income accounting assesses the nation's economic performance.

Unit III: Basic Sectors of the Economy

Demonstrate (1) an understanding of the functioning, history, purpose, and major problems of the labor, private goods, and government sectors of the economy; (2) the ability to apply basic (and where appropriate more refined) economic tools to an analysis of any or all of these sectors; and, (3) an understanding of alternative theories of consumption behavior as well as alternative principles, systems, and types of taxation and fiscal policy.

Unit IV: Introduction to the Keynesian Theory of National Income Determination

Demonstrate (1) an understanding of the history and nature of the business cycle in the U.S., the theoretical analysis of the business cycle, and the Keynesian economics that attempts to mitigate the business cycle; (2) comprehension of economic concepts behind efforts to combat the business cycle; and (3) the ability to apply and solve simple Keynesian models.

Unit V: Money, the Banking System, and Interest Rates

Demonstrate (1) an understanding of money, a fractional reserve banking system, the Federal Reserve system, and the money creation process; (2) comprehension of interest rates and causes of changes in interest rates as well as their role in the economy; and, (3) comprehension of discretionary monetary policy.

Unit VI: A More Complete Keynesian Model

Demonstrate (1) an understanding of the complete Keynesian model and its applications, the theoretical analysis of price changes, and the monetary market; (2) an understanding of our macroeconomic tools and policies and their respective uses and goals; (3) knowledge of the history of the behavior of prices and income in the U.S., and efforts to alter these variables.

Unit VII: The Monetarist Challenge to Keynesian Economics

Demonstrate an understanding of the theoretical debate between monetarists and Keynesians: (1) implications and limitations of available empirical evidence; (2) the role of the government in each of the above schools of thought; and, (3) policy implications and extensions of each of the basic viewpoints.

Unit VIII: Economic Growth and the Environment

Demonstrate (1) an understanding of the following problems and their implications: externalities or spillovers, population growth, pollution and environmental decay, urban problems, and economic growth; (2) an awareness of the applicability (and the limits thereof) of economic analysis to these problems; and (3) an understanding of the alternative solutions to these problems and of their relative merits.

I

INTRODUCTION TO ECONOMICS

OVERVIEW

The purpose of Unit I is to provide you with an understanding of the nature and scope of economics and of the basic concepts of normative vs. positive analysis as well as partial vs. general equilibrium analysis. At the completion of the unit, you should be able to explain and use some fundamental economic tools. The overall goal of the unit is that you be able to analyze a simple economic situation, choose the appropriate tools and apply them to form a logically consistent conclusion.

PERFORMANCE OBJECTIVES

1. Identify the scope and purpose of the science of economics and areas to which it is applicable.

2. Identify what economists refer to as "the fundamental economic problem" and/or the reasons for its continuous existence.

3. Identify characteristics of positive and normative economics.

4. Define and/or explain the significance of economic models.

5. Given an economic term such as production possibilities, an economic concept such as market equilibrium, or an economic model such as a supply-demand model, identify the definition, use, or examples thereof.

6. Identify the conditions (assumptions) which are necessary for perfect competition to exist and function efficiently or the results of perfect competition.

7. Identify attainable, unattainable, efficient, and inefficient points of production for a given set of production possibilities.

8. Given information about a firm, household, etc., demonstrate how that entity would use marginal analysis to make rational economic decisions.

9. Determine the opportunity costs of a given economic decision.

10. Differentiate between conditions causing shifts in supply or demand curves and those causing movement along supply or demand curves; identify the meaning of elasticity and uses of the concept.

11. Given a real or hypothetical case study pertaining to basic market equilibrium situations, such as the effects of alcohol prohibition, identify the significance of the economic principles or phenomena illustrated and/or select and apply the appropriate economic tools to form a logically consistent conclusion about the situation.

12. Determine the market solution for partial equilibrium models and/or identify factors which can cause such solutions to change and the results of such changes.

SELF-DIAGNOSTIC TEST FORM A

1. The primary reason for the existence of the fundamental economic problem is that:

    a. Technological advance has been too slow.
    b. Population growth has been too rapid
    c. We have never been, and it is unlikely that we will ever be, able to accumulate sufficient resources to produce enough to meet all the desires of all people simultaneously
    d. The distribution of wealth has grown perpetually worse over time
    e. Our political system has been too unstable

2. Of the following, economics may best be defined as the study of:

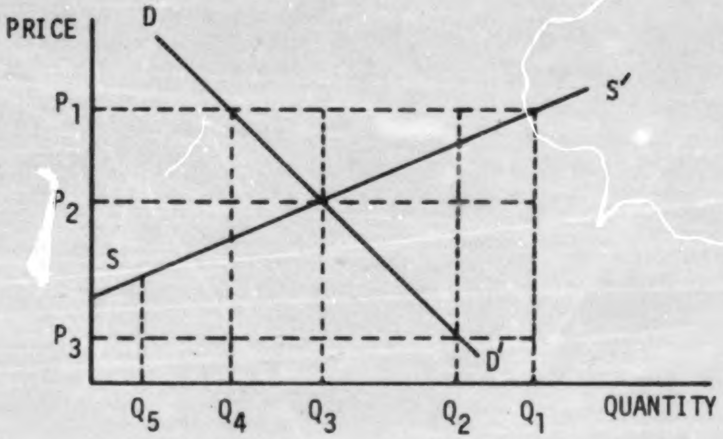
    a. How to stretch the family dollar
    b. How to find maximum-profit equilibrium
    c. How to make money fast
    d. How scarce resources are used to produce the various goods allocated among individuals in society
    e. Why resources are as scarce as they are

3. In economics, a positive statement is one that is:

    a. Probably true
    b. A value judgment
    c. Always true
    d. One that might someday be "proven" if one is given sufficient empirical information
    e. One that can be argued about forever

ANSWER QUESTIONS 4-7 ON THE BASIS OF THE FOLLOWING DIAGRAM.

THE HAMBURGER MARKET



4. If this were a perfectly competitive market, but the government fixed the price of hamburger by law at P_2,
   - a. A shortage of hamburger would exist
   - b. A surplus of hamburger would exist
   - c. Neither a shortage nor a surplus of hamburger would exist
   - d. It is highly likely that a black market for hamburger would arise
   - e. Only (a) and (d) above

5. If this were a perfectly competitive market and the price freeze described in Question 4 were removed:
   - a. Prices would rise and sales would fall
   - b. Prices and sales would rise
   - c. Prices would fall and sales would rise
   - d. Prices and sales would fall
   - e. Prices and sales would remain unchanged

6. If a new price freeze were put into effect, with price fixed by law at P_3, which of the following quantities would be sold:

    a. Q_5
    b. Q_4
    c. Q_3
    d. Q_2
    e. None of the above

7. If the price of hamburger were frozen by law at P_1, what effect would there be on the hamburger bun market if it were perfectly competitive?

    a. Prices would rise but sales would fall
    b. Prices and sales would fall
    c. Prices and sales would rise
    d. Prices would fall but sales would rise
    e. There would be very little effect

8. When perfect competition exists:

    a. No firm in the industry will ever experience losses
    b. No firm in the industry will ever earn economic profits
    c. The product will always be of high quality
    d. Technological advance will always be maximized
    e. None of the above

9. In extremely general terms, the study of economics deals mainly with the problems of:

    a. Markets
    b. Money
    c. Profit-seeking
    d. The price mechanism
    e. Scarcity

10. Which of the following is an example of a decision involving opportunity costs?

    a. The U.S. Congress deciding whether or not to outlaw marijuana
    b. An economics student deciding whether or not to spend two hours studying for his Unit I posttest
    c. A child deciding whether or not to go fishing
    d. All of the above
    e. None of the above

11. Economics would be a useful social science in making which of the following decisions:

    a. If we should continue the cold war
    b. If one should convert from atheism to Catholicism or the Methodist faith
    c. Whether one should pursue graduate study
    d. All of the above
    e. Only (a) and (c) above

12. The use of theory in building economic models:

    a. Involves some simplifications or distortions of reality
    b. Bears unproven relation to reality because if it did so coincide, it would not be theory
    c. Is impossible, because of the impossibility of controlled experiment
    d. If it is to be useful, involves no simplification of reality
    e. Involves so much distortion of reality as to be worthless

13. Positive economics

    a. Deals only with economic relationships which can be proven true at the present time
    b. Does not permit the use of value judgments
    c. Permits us to theorize and make assumptions about relationships which cannot be proven
    d. All of the above
    e. Only (b) and (c) above

14. Case studies of marijuana, alcohol, and prostitution prohibition show that when a product is outlawed because of moral objections:

    a. Its price will rise
    b. Society will have less of other products than previously because of enforcement costs
    c. Some people will feel less satisfied than previously
    d. There may be undesired side effects
    e. All of the above

15. When partial equilibrium analysis is used:

    a. Something useful is accomplished if it helps our understanding of the economy
    b. There are no real intentions of achieving useful results; the only interest is experimentation
    c. Results may have to be adjusted to take account of some of the factors left out
    d. Only (a) and (c) above
    e. None of the above

16. The economics involved in the case studies cited in Question 14 are significant because:

    a. They prove such prohibition is always in error
    b. They prove society erred in the three cases specified
    c. They prove the three prohibitions were successful
    d. Both (a) and (b) above
    e. None of the above

17. If gambling is outlawed but not significantly reduced, economically:

    a. The policy is a failure because valuable resources have been wasted on unsuccessful law enforcement
    b. The policy is a success because fools who gamble can at least be labeled as criminals
    c. It is not possible to evaluate the policy
    d. The policy is a failure because it can conclusively be proved using only positive economics, that gambling should be legal
    e. Both (a) and (d) above

18. A market demand curve:

    a. Can be obtained by summing the demand curves of all the largest purchasers in the market
    b. Tells how buyers will behave in a perfectly competitive market
    c. Is always horizontal
    d. Can only be derived if all buyers belong to a purchasing cooperative
    e. Represents the government's demand for the commodity in question

19. Given a production possibilities diagram for a hypothetical economy, presently attainable points of production would:

    a. Lie only above the frontier
    b. Lie only below the frontier
    c. Lie below, and on, the frontier
    d. Lie only on the frontier
    e. Lie only on the vertical axis

20. On a production possibilities diagram with the present limitations with respect to resource availability and technology, when we are at a point on the frontier:

    a. Production is efficient
    b. Production is inefficient
    c. Resources are not being wasted
    d. Both (a) and (c) above
    e. None of the above

21. The opportunity cost of sailing is:

    a. Zero because sailing is so much fun
    b. Zero because once one owns a sailboat, sailing is free
    c. The value of the next best use of our time plus the value of any resources used in sailing
    d. Both (a) and (b) above
    e. None of the above

22. If the wheat market is competitive, a drought would probably:

    a. Cause wheat suppliers to move up their supply curves to a higher price
    b. Induce greater demand for wheat, yielding a higher price
    c. Cause people to reduce their demand for wheat
    d. Induce an upward and leftward shift in wheat's supply curve
    e. Lower the prices of substitutes for wheat

23. Four of the five events described below might reasonably be expected to shift the demand curve for beef to a new position. The single exception is:

    a. A rise in the price of some good which consumers regard as a substitute for beef
    b. A fall in the price of beef
    c. An increase in the money incomes of beef consumers
    d. A widespread advertising campaign undertaken by the producers of a product competitive with beef (e.g., pork)
    e. A change in people's tastes with respect to beef

24. A price at which the quantity buyers wish to buy exceeds the quantity that sellers wish to produce for sale:

    a. Lies above the long-run equilibrium price
    b. Lies below the long-run equilibrium price
    c. Will induce a shift in the demand schedule in the long run
    d. Is impossible, even in the short run
    e. None of the above

25. A "disequilibrium price" in a competitive market:

    a. Is no different from the "equilibrium price" because the amount bought must identically equal the amount sold
    b. Is a price at which the quantities demanded and supplied are not equal
    c. Has essentially no significance at all in real life, because such demand-and-supply analysis takes no account of incomes, tastes, or other factors which influence demand
    d. Has no application except where some monopoly is present, so that the supplier can influence and stabilize the price
    e. None of the above

26. Since we know that the quantity sold is always equal to the quantity bought:

    a. We know that the market is always in equilibrium
    b. It is clear that the demand schedule slopes downward and supply schedule slopes upward
    c. All other quantities and prices are irrelevant
    d. There is no tendency for prices to change
    e. None of the above

27. Which of the following is an important function of the prices in a market economy?

    a. Ensuring an equal distribution of goods and services
    b. Equating quantities supplied and demanded
    c. Ensuring that all industries will be perfectly competitive
    d. Informing people that these are the goods which exist
    e. All of the above

28. Capitalism is the economic system primarily characterized by:

    a. Use of capital goods
    b. Use of roundabout methods of production
    c. Private-property ownership of productive resources
    d. Use of money and pecuniary assets
    e. Democratic political systems

29. If the marginal utility of an apple were 10 utils and that of an orange were 20 utils for A. T. Root, he would buy:

    a. An orange
    b. An apple
    c. Whichever he likes best
    d. Both an orange and an apple
    e. There is insufficient information to answer this question

30. A shift to the right in the demand curve for product A can be most reasonably explained by saying that:

    a. The supply of A has increased since production costs have declined
    b. The price of A has declined and as a result, consumers want to purchase more of it
    c. Consumer preferences have changed in favor of A so that they now want to buy more at each possible price
    d. The price of A has increased and as a result, consumers want to purchase less of it
    e. Consumer incomes have declined and they now want to buy less of A at each possible price

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM A OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. c
2. d
3. d
4. c
5. e
6. e
7. b
8. e
9. e
10. d
11. e
12. a
13. e
14. e
15. d
16. e
17. a
18. b
19. c
20. d
21. c
22. d
23. b
24. b
25. b
26. e
27. b
28. c
29. e
30. c

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook Reference: Roger Leroy Miller, Economics Today. San Francisco. Canfield Press, 1973, pp. 3-40, 385-409

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	2, 9, 11	3-12; 14	38	There are no tapes to be used with Unit I	
2	1	23-24	39		
3	3, 13	3-4; 19-20	40		
4	12, 27	15-18	41-44		
5	15, 18, 24, 25, 28	3-40; 385-409	45		
6	8	16, 20	46		
7	19, 20	25-29; 38	47-52		
8	29	29-30	53-54		
9	10, 22	24-25; 38	55		
10	30	35-36	56-61		
11	14, 16, 17	3-12	62-64		
12	4-7, 22, 23, 26	31-39; 385-409	65-69		

SPECIFIC STUDY SUGGESTIONS

Relevant textbook and study guide pages for this unit, as well as for each objective of the unit, are given in the Study Directory. The exception to this format is Objective 5. Since this objective pertains to terminology scattered throughout the textbook materials for the unit, specific textbook pages are not listed for this objective. The Study Directory will be especially useful to you if, after taking Form A of the self-diagnostic test, you find you need additional study on certain objectives.

Because of the arrangement described above, it will be possible to study each unit by mastering one objective at a time. However, it is recommended that you begin your study of each unit not by working on one objective at a time, but by first reading all textbook material for the unit. There are several reasons for this study suggestion. One pertains to the textbook used in the course. Most textbooks, and Miller's Economics Today is no exception, are written to be used as widely as possible; that is, they include a wide variety of topics, which may or may not be covered by all instructors. For a course such as Economics 201 which has specific objectives, this is both desirable and undesirable. It is undesirable because some of the material will not pertain directly to the course objectives. However, in cases where several pages or even complete chapters do not pertain directly to course objectives, you will be directed not to read these materials. It is desirable because although some paragraphs may not pertain directly to the objectives of the course, reading these materials may provide you with a broader understanding and appreciation of the scope and importance of economics than you might otherwise acquire--an important goal of any introductory course.

Occasionally, you may think you have enough knowledge about some objectives of the course to pass the end-of-unit test over those objectives without studying the materials suggested in the unit study guides. In such cases you may want to attempt some of the items on Form A of the self-diagnostic test before reading any of the text materials, consulting the objective-test item correlation key in the Study Directory to identify test items over each objective.

Your performance on this self-diagnostic test will tell you if your prior knowledge of the unit material is as large as you believed. Since an 80% mastery level on the posttest will correspond to a grade of "A" for that unit, if you score 80% on Form A of the self-diagnostic test, your knowledge of the unit material is obviously adequate. If you choose this alternative route and do achieve the 80% mastery level on Form A of the self-diagnostic test, you should, however, also use the answer key for this test and the Study Directory for the unit to determine why you missed the items you did.

If you choose this alternate route but do not score 80% or above on Form A of the self-diagnostic test, you should return to the more conventional route outlined on the Study Map. Also if you choose this alternate route but return to the more conventional one, you should always put special emphasis on those unit objectives which you could not answer on Form A of the self-diagnostic test.

When you feel you have mastered the skills specified in the objectives for the unit, you should take Form B of the self-diagnostic test which is included in the Unit Study Guide, and compare your answers to those included in the Unit Study Guide. This test should not be attempted until you feel you have really mastered the unit; in other words, it should not be used merely as a practice test. Should you feel the need for practice test items, those on Form A of the self-diagnostic test will serve this purpose. If you are able to answer all items on Form B of the self-diagnostic test correctly, you should also be able to answer all items on the formal end-of-unit posttest correctly, so you should request it at this point. If however, you are not able to answer all items on this test, you should restudy those objectives which appear to be causing difficulty, then attempt the items over those objectives again.

Since the formal end-of-unit examination tests cover the same objectives as Forms A and B of the self-diagnostic tests, if you can answer all items on these tests, you should experience no difficulty on the end-of-unit test. However, if you do not follow the recommendations on the preceding pages for completing the unit, particularly with respect to use of the self-diagnostic tests, your success with the unit may be less than anticipated.

SUPPLEMENTAL MATERIALS

Objective 1: Identify the scope and purpose of the science of economics and areas to which it is applicable.

Economics is a very relevant social science--it always has been and in all likelihood, always will be. Issue I (see textbook, Economics Today) has illustrated how there are important economic aspects to issues which most of us would not consider economic issues, such as the controversy over marijuana legalization. Economics has a lot to say about illegal activities, but it cannot tell you whether they should be illegal. It can tell you what it costs to keep them illegal, and it can tell you what we would gain by their legalization.

In the past economics was actually the paramount issue of life (and it still is in many nations today). One would either use his resources efficiently or die. Today, even though pure physical survival is not an important concern to most Americans, economic issues are still crucially important. The economic decisions made by each of us, as well as by our government, significantly affect our welfare (i.e., well-being). Further, the economic choices selected by other people also affect each of us directly as well as indirectly.

Objective 2: Identify what economists refer to as "the fundamental economic problem" and/or the reasons for its continuous existence.

Economics is that social science which deals with scarcity. Scarcity always has been a problem and always will be a problem unless all goods become so abundant as to become free. A "free good" is a good which is so abundant that no charge is made for its use and no significant effort is needed to obtain it. For example, if a person lived under the shade of a peach tree (which was continuously loaded with ripe fruit) and could obtain a peach by simply plucking one from a low branch whenever desired, peaches would be a free good for him. However, when a person collects, (i.e., catches) nightcrawlers to use for fish bait, the nightcrawlers are not free goods. Catching them requires too much effort. Scarcity exists because our ability to produce goods and services is insufficient to satisfy all of everyone's desires at the same time.

Objective 3: Identify characteristics of positive and normative economics.

Positive economics deals only with facts and theories about facts; it is with this type of analysis that the economist predicts what he feels will happen if a certain sequence of events takes place. Normative economics deals with value judgments.

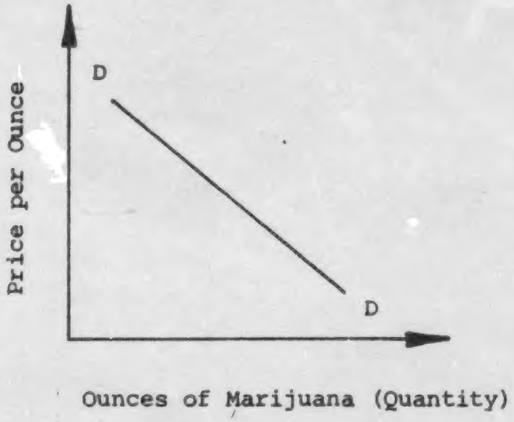
The construction of economic models should be purely positive economics. A model is used to predict what will happen if a certain set of actions are taken. For example, a model to show how to maximize a nation's production of goods and services does not imply we should do so; it tells us how to do so if we want to.

What ought to happen is a problem for the political process. Normative economics can provide input into this process. It can do this by using purely positive models to predict what will happen and then estimating how these events will affect well-being.

Objective 4: Define and/or explain the significance of economic models

Economic models are tools economists use to help understand economic issues and phenomena. If these models are accurate, they can be applied to a large number of phenomena. They can help us understand and control our economy so that it serves us well.

You have already been indirectly exposed to the use of one basic model in Issue I--a supply and demand model of a one-product: the marijuana market.



The demand curve in Fig. 1-1 shows that if the price of marijuana rises, people consume less. If we know its price, we will know which quantity will be demanded (i.e., how much people are willing to voluntarily buy at that price).

Fig. 1-1. Demand for Marijuana

The supply curve in Fig. 1-2 shows that as the price of marijuana rises, producers supply more. If we know its price, we will know which quantity will be supplied (i.e., how much sellers are willing to voluntarily sell at that price).

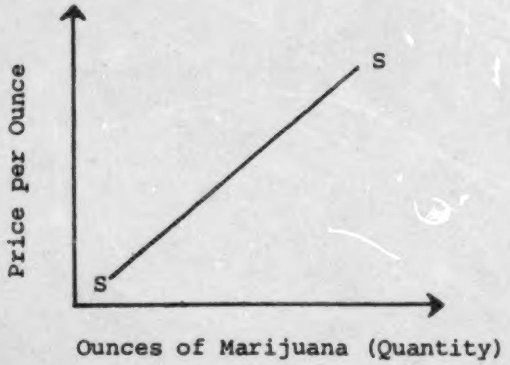


Fig. 1-2. Supply of Marijuana

Notice: Given the information in Fig. 1-1 (the demand curve) and Fig. 1-2 (the supply curve), the price of marijuana can be determined. Fig. 1-3 illustrates this process.

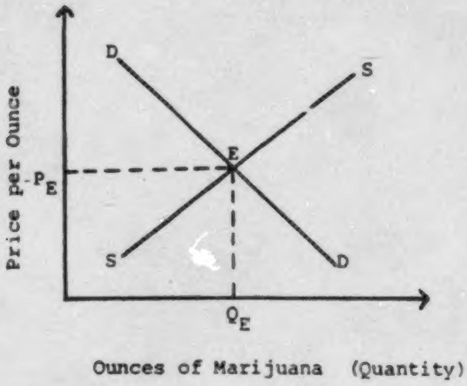


Fig. 1-3. Marijuana Market Model

At only one price (P_E) are buyers satisfied to voluntarily purchase the same quantity (Q_E) of marijuana that sellers voluntarily offer for sale. Thus P_E is the equilibrium price and Q_E is the equilibrium quantity. That is, at any other price-quantity combination, buyers or sellers (or both) are not satisfied. Once at point E, the market equilibrium, price will remain at P_E and the quantity voluntarily demanded will equal the quantity voluntarily supplied (Q_E).

But we do not need a model to tell us today's price of marijuana. We could find out by sufficient empirical study of the commodity involved. (If we did not get arrested by the police or shot as a suspected police informer first!) Once, however, we have our model, we can use it to predict what would happen if supply or demand, or both, were to change. For example, our model (see Fig. 1-4) tells us that if marijuana were legalized, its price would fall and sales would increase.

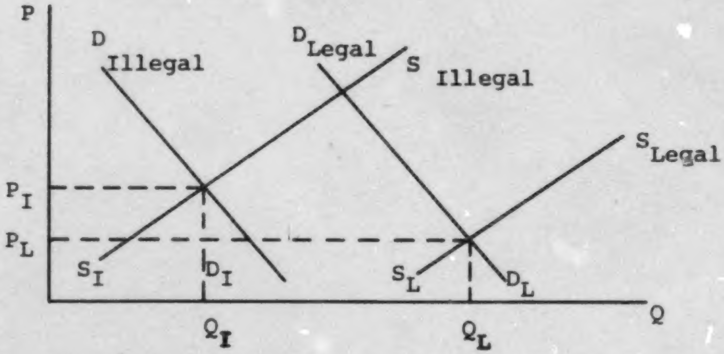


Fig. 1-4. Use of the Supply-Demand Model

Notice also, that this model, like most others, involves numerous assumptions. For example, we have said nothing of the time involved. These assumptions often work out well, but they should not be taken lightly. In this model, the lower price, P_L, would not be realized immediately. Demand could increase rather swiftly, but supply would increase more slowly. In the short run, price might even rise temporarily.

The infamous perfect competition model is the model most often used by economists, even though we realize perfect competition does not normally exist. It is used for at least two reasons: (1) it often makes accurate predictions, and (2) we often need to know how a market would work if it were perfectly competitive, so that we can evaluate the actual performance of that market. A model is useful when it makes accurate predictions or serves as a benchmark for comparison. The perfect competition model does both.

Finally, note that models are constructed in all sciences. All sciences construct and use theories. Economics is a science; as such, it constructs and uses models and theories.

Objective 5: Given an economic term, such as production possibilities; an economic concept, such as market equilibrium; or an economic model, such as a supply-demand model, identify the definition, use, or examples thereof.

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Objective 6: Identify the conditions (assumptions) which are necessary for perfect competition to exist and function efficiently or the results of perfect competition.

Perfect competition requires that a large number of rather restrictive conditions be met:

1. Perfect knowledge must exist. All buyers must know of all purchasing opportunities and all sellers must know of all producing opportunities.
2. A suffiently large number of buyers and sellers must exist so that no one can appreciably affect market price.
3. Free entry to and free exit from all industries must exist for all buyers and sellers.
4. Products must be homogeneous. Everyone must be indifferent as to which seller he buys a product from because all sellers produce identical products.
5. Economies of scale cannot exist to an extent that the other conditions are liable to be violated.

The list could, in the opinions of many, be expanded.

In the absence of perfect competition, rivalry can exist and can help serve the same (or similar) ends. When some marginal sellers compete either by lowering prices or advertising, all sellers who do not compete will start losing sales. Information will gradually continue to spread through the market. As long as some of the sellers continue competing, all those who don't will lose sufficient sales to be forced to enter the competition or be forced to go out of business by bankruptcy. But none of this implies that whenever rivalry exists the market has all the desirable features of perfect competition.

Capitalism is an economic system in use in many parts of the western world. It emphasizes private ownership of economic resources; it relies on the market forces at work in a competitive economy (or the system of markets) to produce an efficient resource allocation. The U.S.A. is probably the most capitalistic economy in the world.

Objective 7: Identify attainable, unattainable, efficient, and inefficient points of production for a given set of production possibilities.

Any economy has a limited ability to produce goods and services. Look carefully at Fig. 1-5. It describes a simplified two-product economy. That economy can produce any combination of cigarettes and beer on, or above, its production possibilities frontier, PP′.

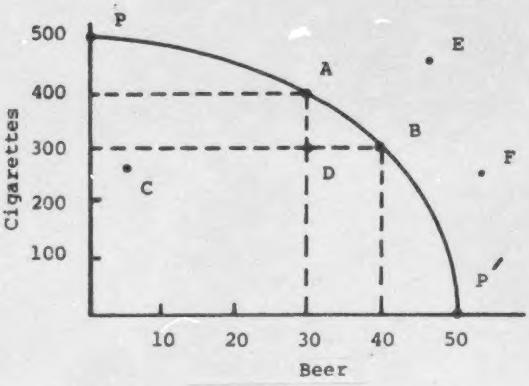


Fig. 1-5. Model of a Two-Product Society: Beer and Cigarettes

The space in the diagram is divided into three parts:

1. Those points beyond the frontier--like points E or F--are simply unattainable. The society does not possess sufficient resources or technological knowledge to reach them.
2. Those points below the frontier--like points C or D--are attainable, but they are generally undesirable. Observe Fig. 1-5 again.

Suppose the economy were at point D. It presently produces 300 packs of cigarettes and 30 cases of beer. But the people could have more of *either*: production could be moved to point A (more cigarettes, no less beer) *or* point B (more beer, no less cigarettes) *or* to any point on the frontier between points A and B (more of both, less of neither). As Table 1-1 demonstrates, production at point D wastes resources. Some of the economy's economic resources are unemployed. Point D is an *inefficient* point.

TABLE 1-1

PRODUCTION ON OR WITHIN FRONTIER OF
TWO-PRODUCT ECONOMY OF FIG. 1-5

Point	Cigarettes	Beer
D	300	30
A	400	30
B	300	40
Points between A and B on the frontier	301 - 399	31 - 39

3. Points on the frontier--like P, A, B, P' --are all efficient. At no point on the frontier is there waste of economic resources. Economics, then, can also be seen as the science which studies ways to keep the economy on its production possibilities frontier.

If full employment exists, more of one good can be produced only by sacrificing some of some other good or goods. Consider again the model of a two-good society in Fig. 1-5. If the economy were at point P, 500 packs of cigarettes and no beer would be produced. If the people cut cigarette production to 400 packs, they could move to "A" and also have 30 cases of beer. If they cut cigarette production an additional 100 packs (to 300), they could move to "B" but this time they would only gain 10 (not 30) more cases of beer.

Why does this phenomena exist? The answer is quite simple. All resources are not suited equally well to various uses. Consider the three graphs in Fig. 1-6.

In Fig. 1-6A, each worker would be equally as good playing pro football and teaching college. Each 140 pound, 70 year old professor with arthritis would be just as good at throwing blocks and sacking quarterbacks as each 260 pound, 25 year old defensive end! Not a very likely world, we might suggest; however, the world depicted by Fig. 1-6C is even less realistic. If we were at point P′ producing 100 units of college classes and no football games but now decided to form the NFL, the first players drafted would be the clumsiest, weakest, oldest, smallest people. If we started from the other end of the frontier at point P and made our first job offer for teaching an advanced graduate course in nuclear physics, we would make it to an excellent football player who had dropped out of school in 7th grade. If you are paying the salaries, are these the choices you would make? This is, of course, unlikely --Fig. 1-6C depicts an economically insane world.

Fig. 1-6B, on the other hand, describes a world in which, if we started at "P" and then began expanding our number of college classes, we would first hire as teachers those who were very poor football players but excellent college teachers. As we continued down the frontier toward P′, those less and less adept at college teaching, but better suited for pro football, would be lured into college teaching.

Of course, in any real world, there are people who would be skilled at both jobs or at neither. But recall that we are--for simplicity--dealing with a two-product world. There is probably no one who is highly skilled at all jobs in a multiproduct world. The production possibility frontier shaped as in Fig. 1-6B is the only one which makes economic sense.

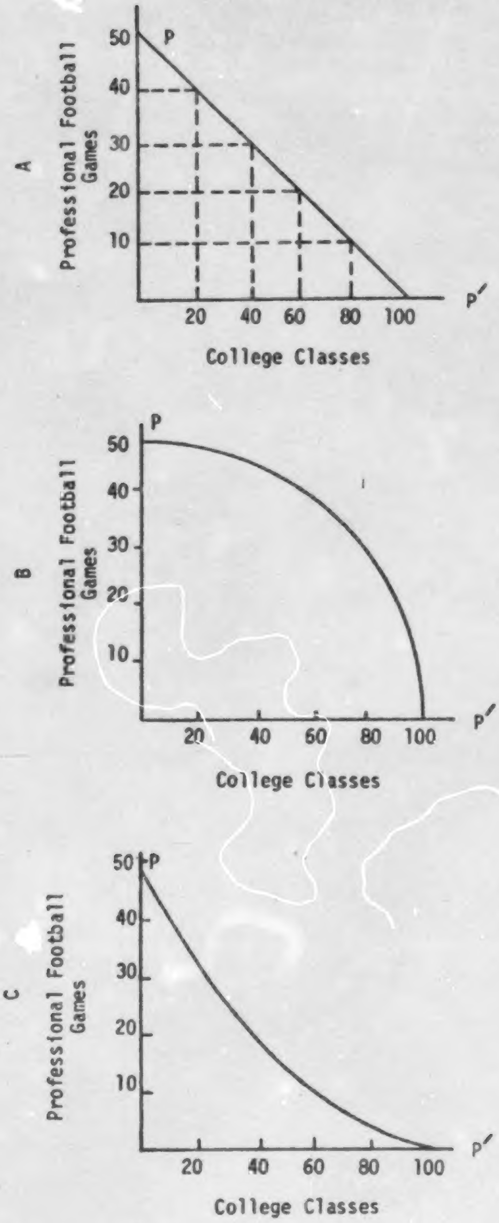


Fig. 1-6. Model of a Two-Product Society: Professional Football Games and College Classes

Expansion in an economy's production possibilities can be called economic growth. It is often useful to break the nation's output into broad catagories as in Fig. 1-7. Chosen here are capital goods (i.e., goods produced for use as economic resources) and consumer goods (those produced to be used now by the nation's people).

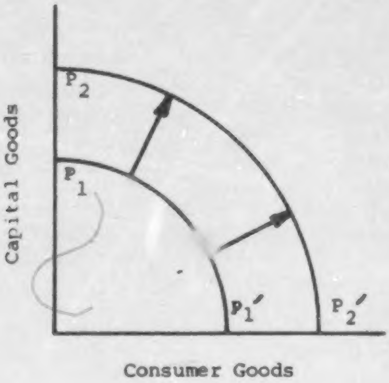


Fig. 1-7. Model of the Nation's Output

As illustrated in Fig. 1-7, production possibilities can expand outwards over time. This economic growth (in its simplest sense) can take place because of factors such as:

1. Technological progress (this appears to have been most important in the USA)
2. Population increase
3. Increase in the capital stock (the nation's accumulated supply of capital goods).

Suppose P_1P_1' currently describes the economy's production possibilities. In this case--other things unchanged--the closer we move to P_1, the faster the capital stock will accumulate. This also means the faster production possibilities will move outwards towards P_2P_2'. Unfortunately it also means the fewer consumer goods we will have now. Movement towards P_1, then represents saving and investing for our future (i.e., sacrificing now).

Expansion in production possibilities effects supply and demand. When the production possibilities frontier shifts outwards, our ability to supply goods and services increases. If demand remains unchanged over time, the supply of goods and services will increase and their prices will fall. Fig. 1-8 illustrates this phenomenon for one market, the beer market. It is important to point out at this point that increased production possibilities are also highly likely to cause demand to increase. These more complex phenomena will be discussed in subsequent units.

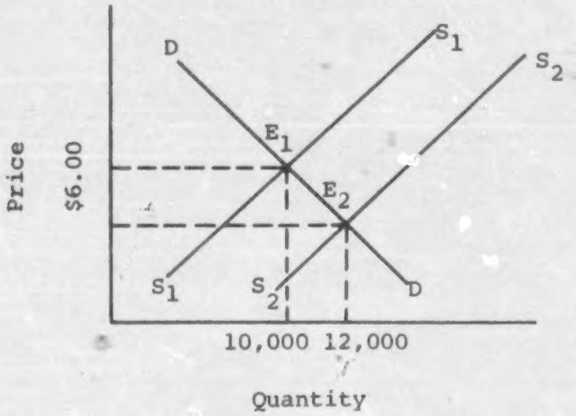


Fig. 1-8. The beer market

Objective 8: Given information about a firm, household, etc., demonstrate how that entity would use marginal analysis to make rational economic decisions.

People demand products because of the satisfaction the products yield: economists label this "utility." Since utility is a subjective concept, we can't very well make interpersonal comparisons, i.e., comparisons between people. Our units are thus not concrete, like a pound or inch, but abstract--called, perhaps, "utils." As one consumes more units of a product in a given time period, eventually (See Fig. 1-9) the utility per unit starts to decline.

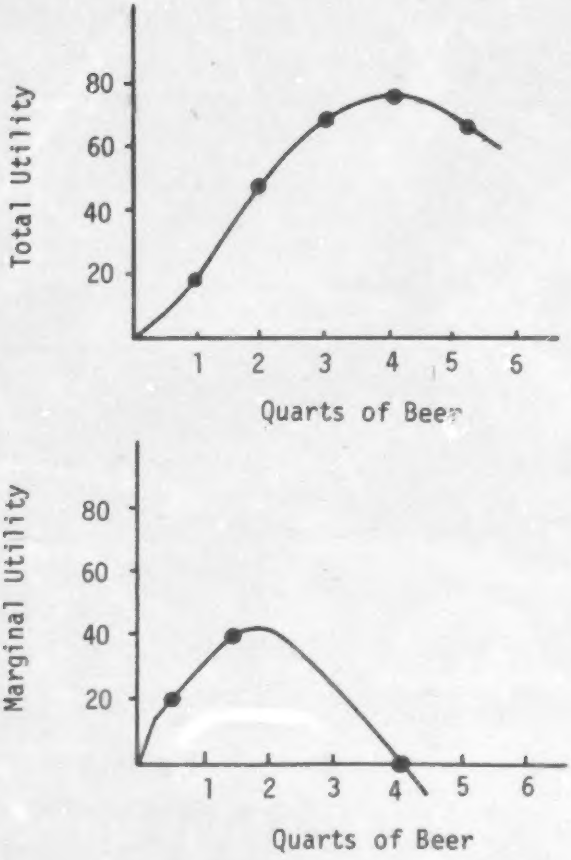


Fig. 1-9. Total and Marginal Utility

This means the marginal utility (i.e., the addition to total utility that each additional unit yields) eventually decreases. Note (Table 1-2) that marginal utility is measured over the interval between units. Thus the marginal utility of the unit between 0 and 1 is 20 midway between the two units: 20 is the average level of marginal utility in that interval.

TABLE 1-2: UTILITY ANALYSIS

Unit	Total Utility	Marginal Utility
0	0	
		20
1	20	
		30
2	50	
		20
3	70	
		10
4	80	
		-10
5	70	

This is why our marginal utility curve crosses the horizontal axis at the unit 4. It is at 10 midway through the interval between units 3 and 4. Thus the total utility curve peaks at precisely the point that the marginal utility curve crosses the horizontal axis (in Figure 1-9).

Objective 9: Determine the opportunity costs of a given economic decision

Opportunity cost is the true economic measure of value. That is, the true cost of doing anything is the value of the next best alternative choice. For example: A $2.00 movie ticket is not worth $2.00 per se to an individual. It is worth four 50-cent beers or 200 pieces of 1-cent candy or whatever else one would rather do if he did not go to the movie.

It is important to fully understand this concept now. It is deceivingly simple and easily confused. Again, the opportunity cost of attending a $2.00 movie is not actually $2.00 but the next best alternative use of the $2.00. If one chose not to go to the movie, he decided the opportunity cost of the movie was too great. Some other use of the $2.00 was more desirable.

Objective 10: Differentiate between conditions causing shifts in supply or demand curves and those causing movements along supply or demand curves; identify the meaning of elasticity and uses of the concept.

Students are often confused by the distinction between shifts in demand (supply) vs. changes in quantity demanded (supplied). This confusion is not necessary. The topic is really very simple. Be sure to bear in mind that "demand" refers to the entire demand curve (schedule). The "quantity demanded" refers only to that point on the demand curve where we happen to be (or would be) at one point in time. The same is true of "supply" and the "quantity supplied."

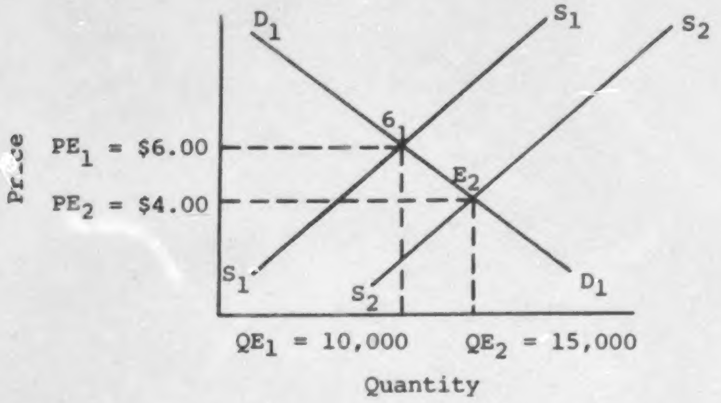


Fig. 1-10. A Shift in Supply

Consider the situation depicted in Fig. 1-10. In this case, the supply of beer shifts from S_1 to S_2. The entire supply schedule moves. Supply has shifted. Suppliers can offer more beer at all prices. But as a result, the quantity demanded and the quantity supplied have also changed from Q_{E1} to Q_{E2} (in this case a change of 5,000). Only demand is left unchanged; the demand schedule has not shifted.

Now consider the opposite case described in Fig. 1-11. Here the entire demand schedule has moved. Demand has shifted. People want more beer at all relevant prices. But as a result, the quantity demand and quantity supplied have also changed, from Q_{E1} to Q_{E2} (in this case a change of 3,000). Only supply is left unchanged; the supply schedule has not shifted.

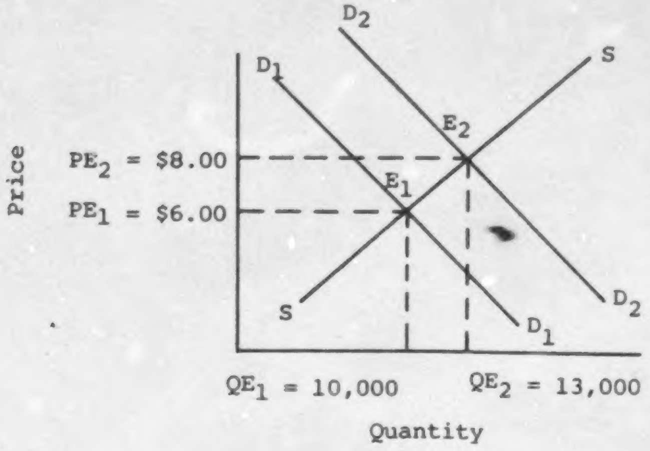


Fig. 1-11. A Shift in Demand

We can develop a guide to aid us. When supply shifts: (1) supply shifts (a truism); (2) the quantity supplied changes; (3) the quantity demanded changes; (4) demand does not change--the demand schedule did not move. When demand shifts: (1) demand shifts (a truism); (2) the quantity demanded changes; (3) the quantity supplied changes; (4) supply does not shift--the supply curve has not moved.

Our guide can serve us well as long as the schedules have their normal slopes. Whenever demand or supply shifts, only one of the four does not alter--the maverick is always supply or demand. We can never err if we start with the truism!

Caution is noted at this point. If the schedules do not have the shapes indicated above (in Figures 1-10 and 1-11), their normal shapes, these rules will not work.

We know, then, that normally, when supply shifts, the quantity demanded also shifts. An important question is how much. When supply changes, price also changes (with the exception discussed below), so, rephrased, the question we are asking is: How responsive is the quantity demanded to a change in price? Economics measures this responsiveness with a tool called the price elasticity of demand.

The price elasticity of demand = E_D.

$$E_D = \frac{\text{The percentage change in quantity}}{\text{The percentage change in price}} = \frac{\%\Delta Q}{\%\Delta P}$$

We are interested in five categories of price elasticity of demand.

1. Perfectly inelastic demand (Fig. 1-12): Here the quantity demanded is simply not responsive to price changes. Products in this class could be items like heroin to an addict, water to stay alive, insulin to a diabetic. The person will pay whatever he has to (given his available income of course) to obtain the product.

$$E_D = \frac{\%\Delta Q}{\%\Delta P} = \frac{0\%}{50\%} = 0$$

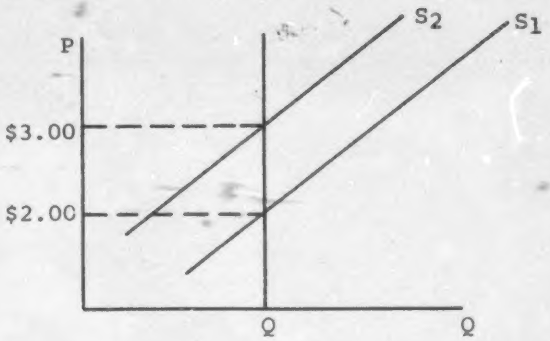


Fig. 1-12. Perfectly Inelastic Demand

2. Relatively inelastic demand (Fig. 1-13): Price elasticity of demand is relatively inelastic when $0<E_D<1.0$. Products in this catagory could include items like food, basic shelter needs, or gasoline in the short run. We have to put up with these price increases. Price changes don't seriously change sales. People need or believe they need, such products.

$$E_D = \frac{\%\Delta Q}{\%\Delta P} = \frac{20\%}{50\%} = 0.4$$

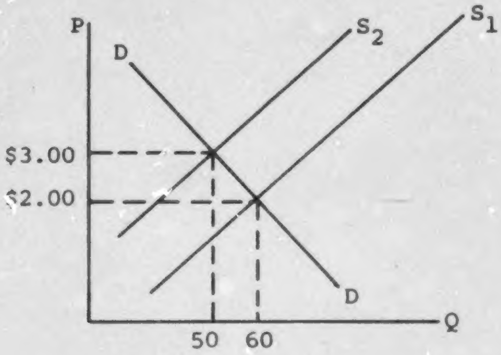


Fig. 1-13. Relatively Inelastic Demand

3. Relatively elastic demand (Fig. 1-14): Price elasticity of demand is relatively elastic when $1<E_D<\infty$. Products in this category could include one brand of flour, one color of sand, etc. Some people are willing to keep purchasing such products as their prices rise but many other people are not.

$$E_D = \frac{\%\Delta Q}{\%\Delta P} = \frac{100\%}{50\%} = 20$$

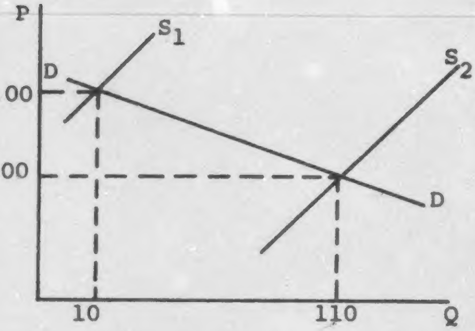


Fig. 1-14. Relatively elastic demand

4. Perfectly elastic demand (Fig. 1-15): Here any upward change in price will cause sales to fall to zero. That is, E_D is infinite for even a tiny upward change in price. Products in this catagory would be the output of any perfectly competitive firm. Notice, also, that it would not be economically rational to lower price. The firm can already sell all it can produce at the existing market price (which, in this example is $2.00).

$$E_D = \frac{100\%}{\text{Approaches } 0\%} = \text{Approaches } \infty$$

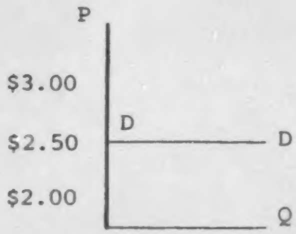


Fig. 1-15. Perfectly elastic demand

5. Unitary Elastic Demand (Fig. 1-16): This is a special case where the percentage change in quantity demanded always equals the percentage change in price. It is included only for completeness. It will play no further role in this course.

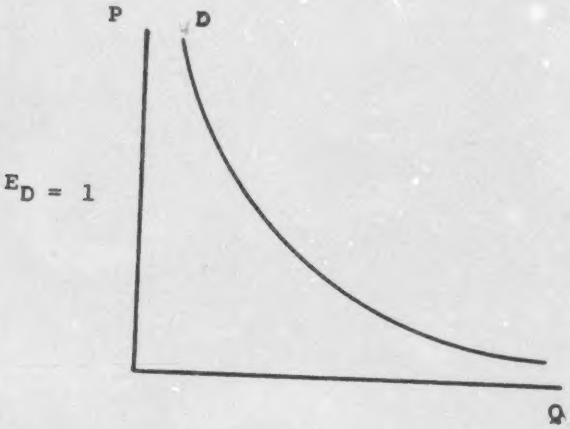


Fig. 1-16. Unitary Elastic Demand

Objective 11: Given a real or hypothetical case study pertaining to a basic market equilibrium situation, such as the effects of alcohol prohibition, identify the significance of the economic principles or phenomena illustrated and/or select and apply the appropriate economic tools to form a logically consistent conclusion about the situation.

When alcohol was outlawed by the 18th Amendment in 1919, the cost of supplying alcohol went up. Prime causes were: risk, payoffs, organized crime, cost of secrecy, etc. At the same time demand was cut by various factors: (1) the Volstead Act; (2) uncertainty as to quality and suppliers; (3) higher costs of search; and (4) possible change in consumer "tastes"--many people won't consume an illegal product. Because of these shifts in supply and demand, alcohol sales didn't cease but did drop; the price of alcohol rose; large amounts of resources were devoted to law enforcement. Production was inefficient.

Was society better off? Economically, no. Goods and services which could have been produced were not produced. The resources which could have been used for the production of other goods were used to enforce--and evade--alcohol prohibition. However, when other criteria besides economics are included in the analysis, it is not at all certain what effect alcohol prohibition had on society. That is, we are simply not sure whether society was made better off or worse off when alcohol was prohibited.

Marijuana was outlawed in most states in the 1920's and 1930's. Although the weed is an easy crop to grow; because of the risk involved, its price is very much above the cost of production. The laws outlawing its production have reduced the supply. Demand is also lower because of risks and uncertainty. In this case, legalization would: be efficient, decrease price, increase demand, increase supply, and have an uncertain effect on well-being.

Prostitution had been a legal profession of long standing in Paris, but, in 1945, Paris outlawed the trade and closed its brothels. There were three goals:

1. To prevent the undermining of public health
2. To prevent the undermining of public morals
3. To increase the availability of low cost living accomodations

The policy has not worked out as planned; an economist could have predicted as much.

The makers of the policy failed to recognize the difference between the quantity and quality of a good or service. Quality in this trade is a function of: innate characteristics, experience (i.e., human capital), and current operating expenditures. The policy of illegality did not make the service disappear, but it did have a great effect on quality.

The health factor was particularly affected for a number of reasons. Since legal advertising could no longer exist, it was hard to tell which brothels spread venereal disease. Illegality increased costs (the risk factor), so other costs of operation, e.g., in house examinations, were cut. In addition, the government inspection program was eliminated. As a result, VD rates soared among both suppliers and demanders of the service, particularly among the poor.

The policy did not eliminate the profession, nor did it make available much extra low cost housing. Economically, it was a failure in that: enforcement costs used valuable resources; unnecessary resources were devoted to medical care of those with VD; and product quality was reduced. We cannot be sure if society was made better off or not by the policy. For example, well-being could have increased because of the psychic satisfaction of identifying those who supply the service as criminals. Similarly, perhaps those who supply and demand the service deserve VD. On the other hand, those afflicted with VD would likely disagree.

It is rather clear that none of the three goals which resulted in the closing of the brothels, i.e.

1. To prevent the undermining of public health
2. To prevent the undermining of public morals
3. To increase the availability of low cost living accommodations,

were accomplished. Instead,

1. Public health got worse
2. The profession was not eliminated: immoral or not, the service continued to be supplied and demanded, and
3. The housing did not materialize.

Objective 12: Determine the market solution for partial equilibrium models and/or identify factors which can cause such solutions to change and the results of such changes.

Equilibrium is a situation in which whatever we are talking about will stay as it is unless acted upon by some outside force.

Equilibrium analysis falls into two broad categories. Partial equilibrium analysis is the type of economic analysis which considers only one part of the economy (or one part of whatever we are talking about). The above discussion of the marijuana industry is an example of partial equilibrium analysis. This tool is very useful but runs the risk of making erroneous predictions if something important is left out. General equilibrium analysis considers the whole economy (or all of whatever we are talking about). It is a much more complex tool. As the analysis approaches becoming completely general, the risk of leaving out something of importance diminishes. On the other hand, the analysis becomes much more complex and in the limit impossible and thus useless.

Figures 1-17 to 1-20 which follow provide several examples of the method of partial equilibrium analysis. General equilibrium analysis will not be discussed further at this point.

Throughout history, governments have attempted to alter the behavior of product markets. Price fixing is one example of such a policy (e.g., former President Nixon's wage-price "freezes"). Figures 1-17 and 1-18 illustrate the effects of this practice. Suppose our hypothetical economy is governed by an all-powerful (but not all-wise) monarch, King Noxious I. In Fig. 1-17 King Noxious I has set the price of beer by law at $8.00 a case. At this high price, buyers only demand 5,000 cases; sellers would be quite willing to sell 13,000 cases but cannot find purchasers for 8,000 of these cases. A surplus (in this case 8,000 cases) develops. The buyers' desires prevail because they, and not the sellers or King Noxious, control their own wallets. (Humans being human, some illegal transactions may well occur at lower prices.)

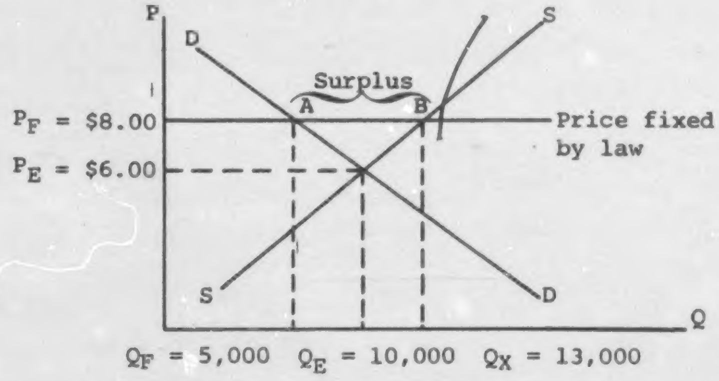


Fig. 1-17. Price fixed above market equilibrium

Fig. 1-18 describes what would happen had King Noxious chosen to fix the price at a level which happened to be below the market equilibrium. Sellers are only willing to produce 6,000 cases at this low price; buyers would be willing to purchase 12,000 cases but simply don't find that many available. A shortage (in this case 6,000 cases) develops. Sellers' wishes prevail because they, and not buyers or King Noxious, control their firms' production. (Again humans being human, some illegal transactions may well occur at higher prices.)

Notice that the short side of the market dominates in both cases. Since the demand curve expresses what buyers will willingly do and the supply curve what sellers are willing to do, whoever is willing to buy (sell) less determines the result when prices are fixed. What is bought must be sold; what is sold must be bought.

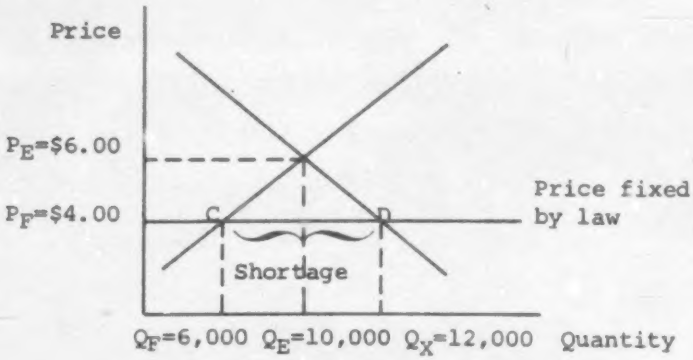


Fig. 1-18. Price fixed below the market equilibrium

We have previously seen what happens when prices are fixed by law at levels either above or below the market equilibrium. But what happens in a free market when price is not at the equilibrium level? Suppose, for example, the price of beer somehow--because of some disturbance--was at $9.00 as in Fig. 1-19. We have learned that the "short side" market forces (in this case demand) dominate. We will be at A, selling 200 cases per time period, at a price of $9.00 per case.

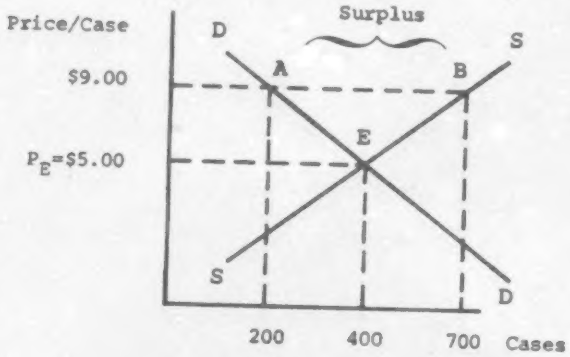


Fig. 1-19. The effects of market disequilibrium in a free market (surplus)

But this is a disequilibrium situation. A surplus exists. A sequence of events is set in effect:

1. A surplus or excess supply builds up.
2. Sellers cut prices--the quantity demanded begins to increase.
3. The surplus shrinks.
4. When price falls to P_E ($5.00), the equilibrium price, the surplus is gone.
5. Sellers have no further reason to cut price.
6. The market stabilizes at its equilibrium (P = $5.00, Q = 400 cases) where it will remain unless disturbed again. Both buyers and sellers are content to do the same thing at the same time.

Consider the opposite situation illustrated in Fig. 1-20. At this low price of $3.00, the "short side" again dominates, but this time the "short side" is supply. Sellers will only sell 300 cases at this low price. A shortage develops. Again a sequence of market forces is set in action:

1. Sellers raise prices to avoid dissatisfied customers (and to make more money).
2. Buyers (since they want more anyway) willingly pay the higher price.
3. Sellers can afford to order more.
4. The shortage shrinks until price eventually rises to $5.00 and sales to 400. The market again is at equilibrium and will remain there until again disturbed.

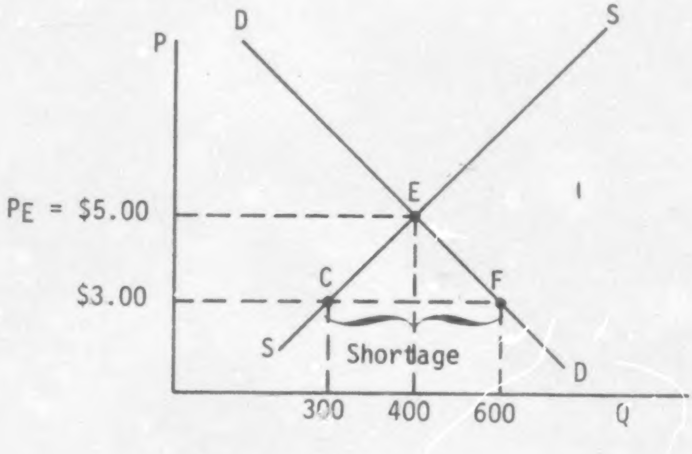


Fig. 1-20. The effects of market disequilibrium in a free market (shortage)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

1. Economic goods are termed "scarce goods" because they:

   a. Are not available in sufficient quantities to satisfy all wants for them
   b. Are not always sold at dealer cost
   c. Are of high quality
   d. Are of primary importance in satisfying the needs of society
   e. None of the above

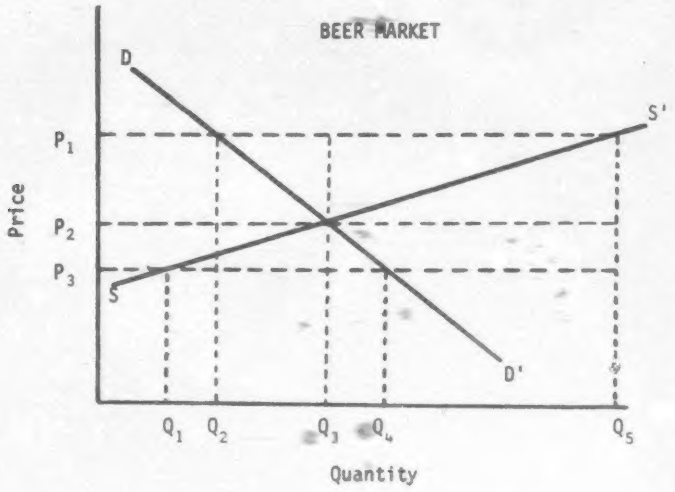
2. Economics may be defined as:

   a. The study of activities involving money and exchange transactions among people
   b. The study of the allocation of scarce resources to the production and distribution of goods and services
   c. The study of wealth
   d. The study of men in their ordinary business of life, earning and enjoying a living
   e. All of the above

3. Normative economics is:

   a. Not very useful because it is imprecise and nonscientific
   b. That part of economics where value judgments must be used
   c. That part of economics which relies only on facts and assumptions
   d. All of the above
   e. Only (a) and (b) above

ANSWER QUESTIONS 4-7 ON THE BASIS OF THE FOLLOWING INFORMATION:



4. Assuming a perfectly functioning competitive market with the price at the P_1 level, the resulting price-quantity combination would be:

   a. P_1 and Q_5
   b. P_1 and Q_2
   c. P_2 and Q_3
   d. P_1 and Q_3
   e. None of the above

5. Given the information in the above diagram, the price-quantity combination would eventually change to which equilibrium pair?

   a. P_2 and Q_2
   b. P_1 and Q_2
   c. P_1 and Q_3
   d. P_2 and Q_3
   e. None of the above

6. If the government, in response to massive public unrest over the beer market situation, fixed the price of beer [illegible] law at P_3, what amount of beer would be sold?

   a. Q_1
   b. Q_2
   c. Q_3
   d. Q_4
   e. Q_5

7. If the price of beer were fixed by law at a price of P_1, what effect would there be in the market for belt buckles?

   a. A huge decline in sales and price
   b. A huge increase in both price and sales
   c. A huge rise in price but very little change in sales
   d. Very little effect at all
   e. None of the above

8. Which of the following conditions are needed for perfect competition to exist and function efficiently?

   a. Perfect knowledge
   b. Large numbers of buyers and sellers
   c. No risk that the product will be defective
   d. All of the ~~above~~
   e. Only (a) and (b) above

9. Economics can tell us:

   a. Whether an expectant mother should get an abortion
   b. Whether marijuana should be legalized
   c. Whether pornography should be outlawed
   d. All of the above
   e. None of the above

10. Which of the following is not an example of the use of the concept of opportunity costs?

    a. If aid to NATO were decreased, there would be more resources to devote to the War on Poverty
    b. The more is spent on getting to Mars, the less can be spent on anything else
    c. The Rockefeller foundation has decided to increase its grants to research by one million dollars
    d. The more you study economics, the less you'll be able to study other courses you are taking at the same time
    e. None of the above

11. Economics is a relevant social science because:

    a. Many day to day decisions have important economic aspects
    b. Many political decisions have important economic aspects
    c. It can tell each of us how to get the maximum possible satisfaction out of our lives
    d. All of the above
    e. Only (a) and (b) above

12. Our economic models:

    a. Are useful because they take into account all of the complexities of reality
    b. Are useful even though they simplify reality
    c. Are worthwhile solely because they are elegant and aesthetically beautiful
    d. Are all right in theory but not in practice
    e. Are of no use because they are abstract whereas true economic reality is concrete

13. In a competitive economy, positive economics can indicate, given sufficient empirical information:

    a. What the equilibrium price in the baked bean market will be
    b. What the equilibrium price in the baked bean market should be
    c. Whether we should buy baked beans
    d. All of the above
    e. Only (a) and (b) above

14. When alcohol became an illegal product, the cost of supplying it increased because:

    a. Policemen had to be paid off in order to continue production and distribution
    b. The Mafia had to be paid off
    c. Marketing information became more costly to disseminate (that is, advertising was made more difficult)
    d. All of the above
    e. Only (a) and (b) above

15. Ideally, general equilibrium analysis is preferable but we normally use partial equilibrium analysis because:

    a. It is easier to do so
    b. The economy is too complex for us to consider everything at once
    c. The data requirements of a true general equilibrium analysis are too formidable
    d. All of the above
    e. Only (b) and (c) above

16. Given the examples of alcohol prohibition in the U.S. and prostitution prohibition in Paris, one would expect that outlawing marijuana in the U.S. in the 1970's would:

    a. Not eradicate the use of the weed
    b. Require large amounts of resources for even moderately successful enforcement
    c. Raise the price of marijuana above its free market price
    d. All of the above
    e. Only (a) and (c) above

17. The legalization of marijuana might lead to a reduction in its price because:

    a. Fewer people would want to buy it
    b. The Department of Agriculture would subsidize it
    c. People would then turn to alcohol as a substitute
    d. The cost of supplying it would fall due to a reduction in risk, the increased entry into the business by potential suppliers, etc.
    e. None of the above

18. Marginal utility:

    a. Equals the distance between the horizontal axis and the total utility curve
    b. Is measured by the degree to which total utility increases as consumption increases
    c. Can only be used for goods and not for services
    d. All of the above
    e. Only (a) and (b) above

19. The production-possibilities frontier shows that:

    a. Unemployment is inevitable
    b. At full employment, in order to produce more of something, society must produce less of something else
    c. Affluence is the order of the day in the market economy
    d. At full employment, in order to produce more of something, society must produce more of all things
    e. None of the above

20. If society is at a point below the production possibility frontier:

    a. Some thing is wrong with the analysis; that is, society cannot reach points below the frontier
    b. Resources are being wasted by not being used
    c. Production is inefficient
    d. Both (a) and (b) above
    e. Both (b) and (c) above

21. The opportunity cost of any given economic decision is:

    a. Always its market price
    b. The satisfaction yielded by the next best alternative that was foregone when the choice was made
    c. The cost of acquiring information concerning that particular economic opportunity
    d. All of the above
    e. Only (a) and (b) above

22. In a competitive market, price is determined exclusively by:

    a. The costs of producing the good under consideration
    b. The supply of the good
    c. Buyers' decisions as to how much they are willing to pay
    d. The interaction of tastes and demand
    e. None of the above

23. If the economy is fully employed, an upward shift in the demand schedule for alfalfa alone:

    a. Cannot alter the output of alfalfa
    b. Will lead to a gradual fall in the price of alfalfa
    c. Will lead to an increase in the amount of alfalfa supplied with subsequent reductions in the supply of some other commodity(ies)
    d. Will lead to inflation with no alteration in the output of any commodities
    e. None of the above

24. Being on the production-possibility frontier in an economy producing only guns and butter means that:

    a. It is impossible to produce any more guns
    b. It is impossible to produce any more butter
    c. More guns can be produced only by doing without some butter
    d. Population is in equilibrium
    e. If society becomes more productive in producing butter, then we can have more butter, but not more guns

25. The situation of excess supply:

    a. Exists whenever price is below the equilibrium price
    b. Exists whenever price is above the equilibrium price
    c. Can only be caused by government intervention
    d. Generally exists only in capital goods markets
    e. Both (a) and (c) above

26. We depict quantity demanded as a function of price, but the position of the demand curve depends on:

    a. Income
    b. Preferences
    c. The availability of substitutes
    d. All of the above
    e. None of the above

27. Economic models:

    a. Can be applied to a large number of phenomena if they are accurate
    b. Are useful if they predict accurately
    c. Are not intended to be perfect descriptions of reality
    d. All of the above
    e. Only (a) and (b) above

28. Equilibrium--economically speaking--is:

    a. Always desirable
    b. A situation where something will stay as it is unless some outside force changes it
    c. A rather useless concept because of its infrequent use
    d. All of the above
    e. None of the above

29. A marginal decision occurs when:

    a. A child decides whether or not to buy his third candy bar
    b. A chemical company decides whether or not to dump one ton of pollutants into a river
    c. A household chooses to buy a house
    d. All of the above
    e. Only (a) and (b) above

30. Which of the following could not cause a shift in the demand curve for peas?

    a. An increase in consumers' incomes
    b. An increase in the price of sweet corn
    c. A large decrease in the price of potatoes
    d. A decrease in the price of peas
    e. A decrease in the price of wax beans

CHECK YOUR ANSWERS BY TURNING TO ANSWER KEY FOR FORM B
OF SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM B

1. a
2. e
3. b
4. b
5. d
6. a
7. d
8. e
9. e
10. c
11. e
12. b
13. a
14. d
15. d
16. d
17. d
18. b
19. b
20. e
21. b
22. e
23. c
24. c
25. b
26. d
27. d
28. b
29. e
30. d

DO NOT REQUEST THE END-OF-UNIT TEST UNTIL YOU CAN ANSWER
ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC
TEST WITHOUT ANY DIFFICULTY

II

ASSESSING THE NATION'S ECONOMIC PERFORMANCE

OVERVIEW

This unit moves explicitly into the realm of macroeconomics and is designed to: (1) refine your understanding of production possibilities analysis, market models, and the workings of a capitalistic or free enterprise economy; (2) introduce techniques used by economists to make economic forecasts; and, (3) introduce new economic tools, such as national income accounting, price indexes, and circular flow of income models.

Topics in this unit include the system of national income accounts and analysis of the circular flow of income. Of particular significance is the issue of how well the system of national income accounts actually assesses the nation's economic performance. The weaknesses of these accounts are as important as their strengths. The analysis of the circular flow of income is also of crucial importance, and mastery of the principles involved in these models will significantly improve your ability to understand Keynesian economics when this more advanced subject is introduced in subsequent units.

PERFORMANCE OBJECTIVES

1. Given either a printed description or a diagram of an economy's production possibilities, (a) form conclusions about either the actual performance of the economy or societal preferences as to the performance of the economy, and (b) evaluate the merits of alternative points of production.

2. Identify definitions of the terms: current dollar GNP, price index, and constant dollar GNP; and given data pertaining to production, market prices, and the market basket of goods comprising the relevant price index for a hypothetical economy, calculate any of the above.

3. Given a description of a hypothetical economy and the necessary data, identify the procedure for calculating GNP by the final goods or value added method, and, for a simple economy, make these calculations.

4. Given a system of national income accounts, supply any missing terms; identify the meaning or purpose of each term in the system and relationships between the various terms.

5. Given an example containing approximately five nations, including the U.S., from different parts of the international distribution of incomes, identify valid conclusions about comparative living standards one would expect to exist in these nations.

6. Define competition and, given a competitive product market, identify the perfectly competitive market solution or its significance.

7. Given circular flow of income diagrams, interpret the diagrams and identify changes which could be expected to take place under given conditions.

8. Identify elements of, and problems in, our present system of assessing the nation's economic performance.

9. Given an economic forecasting model and the necessary data, identify advantages and disadvantages of the model and use the model to make simple forecasts.

10. Given our present system of national income accounting, identify areas where major refinements would provide more accurate assessment of the nation's economic performance or describe needed changes.

SELF-DIAGNOSTIC TEST FORM A

1. In the hypothetical economy of Oil City Czardom, the following production takes place in Oil City Czardom florins (symbol = Ø):

Producers - All in Oil City	Products - All Sold in Oil City
Oil Drilling Equipment Maker (using free resources)	1000 Ø - Drilling equipment sold to well driller
Oil Well Driller	2500 Ø - Oil sold to refinery
Refiner	3500 Ø - Gasoline sold to Oil City Stinker Station
Stinker Station	4500 Ø - Gasoline sold to public

The GNP of Oil City Czardom would be:

a. 3,500 Ø
b. 4,500 Ø
c. 9,000 Ø
d. 11,500 Ø
e. None of the above

2. Current dollar GNP figures could possibly:

a. Overstate the growth of GNP over time
b. Understate the growth of GNP over time
c. Accurately state the growth of GNP over time
d. All of the above
e. None of the above

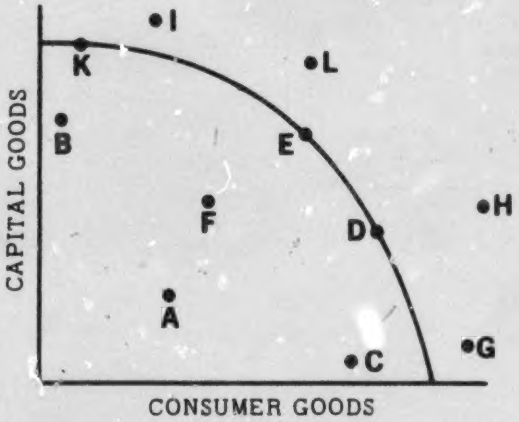
3. Given that society is presently at a point beneath the nation's production possibilities frontier, a move to:

   a. Any point on the production possibilities frontier would be desirable
   b. Any point above the production possibilities frontier would be desirable, but presently impossible
   c. Some points on the production possibilities frontier would be desirable
   d. Some points above the production possibilities frontier would be desirable, but presently impossible
   e. Both (c) and (d) above

4. If an economy is operating at a point on its capital goods/consumer goods production possibilities curve, which of the following is indicated:

   a. Full employment of labor, but not of other resources, is being achieved
   b. Full employment of capital, but not necessarily of labor resources, is being achieved
   c. More capital goods can be produced but only at the cost of some consumer goods
   d. The economy is incapable of achieving economic growth
   e. None of the above

ANSWER QUESTIONS 5 AND 6 ON THE BASIS OF THE FOLLOWING DIAGRAM AND INFORMATION ABOUT THE PRODUCTION POSSIBILITIES CURVE FOR ANDROIDONIA:



5. Given no other information about Androidonian preferences, if the society were presently located at Point A, which of the following sets of points contains only points which are definitely preferable to A

   a. B, C, D, E, F, G, H, and I
   b. E, F, H, and L
   c. D, E, and K
   d. G, H, I, K, and L
   e. C, D, E, F, G, H, and L

6. Given no other information about Androidonian preferences, if the society were presently located at D, a move to E would:

   a. Be undesirable
   b. Require sacrifice of some consumer goods to get more capital goods
   c. Might be either desirable or undesirable
   d. Both (a) and (b) above
   e. Both (b) and (c) above

ANSWER QUESTIONS 7-10 ON THE BASIS OF THE FOLLOWING INFORMATION ABOUT THE HYPOTHETICAL ECONOMY OF THE POVERTY BEACH ISLAND REPUBLIC. THE APPROPRIATE MARKET BASKET OF GOODS FOR CALCULATING THE POVERTY BEACH PRICE INDEX IS TWO CASES OF BEER, ONE RACK OF MUTTON, AND ONE PECK OF ONIONS. THE BASE YEAR FOR THIS PRICE INDEX IS THE YEAR 1975.

YEAR	OUTPUT			PRICES (IN POVERTY BEACH PESOS)		
	Beer	Mutton	Onions	Beer/Case	Mutton/Rack	Onions/Peck
1975	1000 cases	1000 racks	1000 pecks	3	2	2
1976	1200 cases	900 racks	900 pecks	2	3	3
1977	800 cases	1200 racks	1000 pecks	5	2	2
1978	600 cases	1500 racks	1200 pecks	10	1	1

7. Current peso (money) GNP is highest in:

   a. 1975
   b. 1976
   c. 1977
   d. 1978
   e. 1975 and 1978 are tied

8. Constant peso (real) GNP is highest in:

   a. 1975
   b. 1976
   c. 1977
   d. 1978
   e. 1975 and 1978 are tied

9. Constant peso (real) GNP is lowest in:

   a. 1975
   b. 1976
   c. 1977
   d. 1978
   e. 1975 and 1978 are tied

10. Current peso (money) GNP is lowest in:

    a. 1975
    b. 1976
    c. 1977
    d. 1978
    e. 1975 and 1978 are tied

ANSWER QUESTIONS 11 - 14 ON THE BASIS OF THE FOLLOWING NATIONAL INCOME ACCOUNT FOR THE HYPOTHETICAL COUNTRY OF HOGONIA

GNP (10,000) minus ______ (1000)
equals NNP (9,000) minus ______ (2000)
equals National Income (7,000) minus ______ (1500)
plus ______ (500)
equals Personal Income (6,000) minus ______ (2500)
equals Disposable Income (3,500) minus ______ (400)
equals Consumption Spending (3,100).

11. Social Security Contributions, Corporate Income Taxes, and Undistributed Corporate Profits would total:

a. 2500
b. 2000
c. 1500
d. 1000
e. 500

12. Indirect Business Taxes would total:

a. 2500
b. 2000
c. 1500
d. 1000
e. 500

13. Personal Income Taxes would total:

a. 500
b. 1000
c. 1500
d. 2000
e. 2500

14. Hogonia's total output, adjusted for wear and tear on its capital equipment, would be:

a. 10,000
b. 9,000
c. 7,000
d. 6,000
e. 3,000

15. For any economy, the best measure in our National Income Accounts of what households have available to spend is:

    a. GNP
    b. NNP
    c. National Income
    d. Personal Income
    e. Disposable Income

ANSWER QUESTIONS 16 AND 17 BASED ON THE FOLLOWING 1968 PER CAPITA GNP FIGURES:

Country	Per Capita GNP
United States	$3578
Australia	$1807
Mexico	$ 551
Ghana	$ 198
Kenya	$ 107

16. Do these figures in the above diagram demonstrate conclusively that the average Ghanian lived slightly less than twice as well as the average Keynan in 1968?

    a. Yes, since we can be reasonably certain of our national income figures for poor nations because they are computed by the U.N
    b. Yes, because national income figures are a nearly perfect method of making international comparisons of living standards
    c. No, because our data concerning national income is very unreliable for poor nations
    d. No, because customs, preferences, etc., might vary significantly between the two nations
    e. Both (c) and (d) above

17. Do these figures in the above diagram demonstrate conclusively that the average U.S. citizen lived approximately twice as well as the average Australian in 1968?

    a. Yes, because our national income statistics for advanced nations are so well perfected that they can serve as excellent measures of living standards
    b. Yes, because since both the U.S. and Australia were colonized by Britain, we know that the two nations have almost identical preferences, customs, etc.
    c. No, because the relevant market basket of goods one must buy still varies considerably between advanced nations
    d. No, because many things besides income levels influence living standards
    e. Both (c) and (d) above

18. Competition means that:

    a. There is more than one seller in a market
    b. A given product can be purchased at a number of different prices
    c. There are large numbers of independently-acting buyers and sellers, none of whom can influence price, in each market
    d. Sellers can cause artificial product scarcities and thereby manipulate market price
    e. Both (a) and (b) above

19. Which of the following will not cause the demand for product K to shift?

    a. A change in consumer tastes
    b. A change in the price of K
    c. An increase in consumer incomes
    d. A change in the price of close-substitute product J
    e. None of the above

20. Which of the following statements is incorrect?

    a. If supply declines and demand remains constant, equilibrium price will rise
    b. If demand decreases and supply increases, equilibrium price will rise
    c. If supply increases and demand decreases, equilibrium price will fall
    d. If demand increases and supply decreases, price will rise
    e. None of the above is an incorrect statement

21. A naive forecasting model utilizes:

    a. A sophisticated and accurate theory of the economic system
    b. A sophisticated but sometimes incorrect theory of the economic system
    c. A lot of worthless mathematics
    d. No theory at all
    e. None of the above

22. Given the forecasting model:

$$Y_{t+1} = 1.10Y_t - 100$$

If Y_t is 2000, the income prediction for the year t+1 will be:

    a. 2000
    b. 2200
    c. 2300
    d. 22,100
    e. None of the above

23. According to many environmental economists, our present system of national income accounting is so defective that it:

    a. Could even indicate that our economic wellbeing has increased when it has actually decreased
    b. Actually provides little accurate information about our economic wellbeing
    c. Could overstate the rate of increase of our economic wellbeing
    d. All of the above
    e. None of the above

24. Our present system of national income accounting does not give sufficiently accurate comparisons of the economic performance of:

    a. A nation over time
    b. Different nations at the same point in time
    c. Different nations over time
    d. All of the above
    e. None of the above

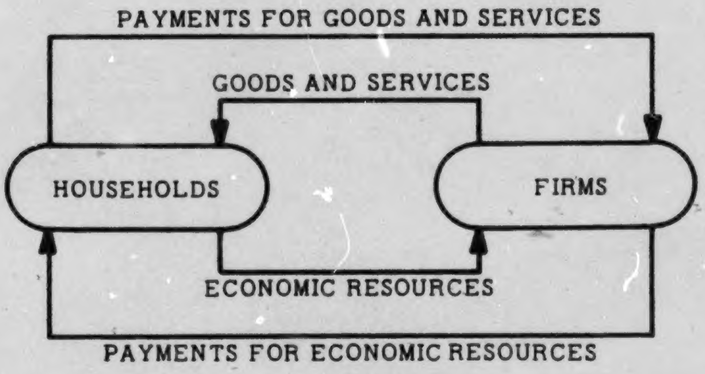
25. Our present system of national income accounting is defective in that it does not include the:

    a. Production of small owner-operated firms
    b. Value of housewives' services
    c. Value of services provided by independent professionals
    d. All of the above
    e. Only (a) and (b) above

26. If a new system of national income accounting were created this year, it would:

    a. Be substantially the same as it is now
    b. Probably be significantly different from the present system
    c. Probably assess economic performance of nations better than the present system
    d. Both (b) and (c) above
    e. None of the above

ANSWER QUESTIONS 27 AND 28 ON THE BASIS OF THE FOLLOWING MODEL


PAYMENTS FOR GOODS AND SERVICES
GOODS AND SERVICES
HOUSEHOLDS
FIRMS
ECONOMIC RESOURCES
PAYMENTS FOR ECONOMIC RESOURCES

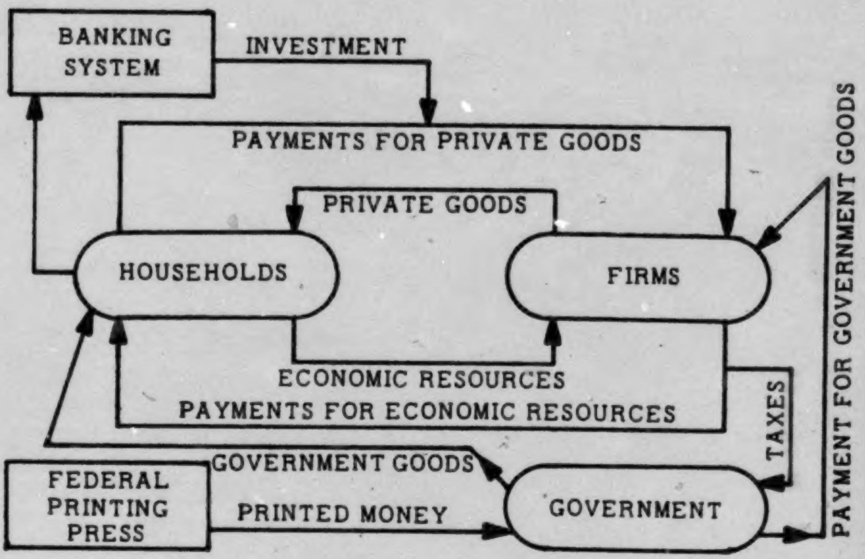
27. In the following model:

    a. Households own all things that are useful in producing goods and services
    b. Firms own all the economic resources
    c. Firms own all the money
    d. Firms own themselves only
    e. None of the above

28. If households started hoarding 5% of their incomes in cookie jars:

    a. Payments for economic resources would exceed payments for goods and services
    b. Firms would not be able to sell all their products
    c. Prices would start rising
    d. All of the above
    e. Only (a) and (b)

ANSWER QUESTIONS 29 AND 30 ON THE BASIS OF THE FOLLOWING MODEL:



29. If the economy described in the above figure is at full employment, there is no inflation or deflation taking place, and the investment flow is zero.

   a. The government could be printing and spending an amount equal to what households were saving
   b. Savings could be zero
   c. Government taxation could be zero if it was not providing any government goods
   d. All of the above
   e. None of the above

30. If savings was greater than investment, but no price changes or unemployment existed

a. Taxes could be greater than government spending
b. Payments for government goods could exceed taxes
c. Payments for private goods would be zero
d. The government is definitely not printing money
e. None of the above

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM A OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. b
2. d
3. e
4. c
5. b
6. e
7. d
8. b
9. d
10. a
11. c
12. b
13. e
14. b
15. e
16. e
17. e
18. c
19. b
20. b
21. d
22. e
23. d
24. d
25. b
26. d
27. a
28. e
29. d
30. b

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook Reference: Roger Leroy Miller, Economics Today. San Francisco. Canfield Press, 1973, pp. 41-67, 385-409.

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	3-6	46-48	102-103	1	1
2	2, 7-10	41-61 51-52	104-106	1	2
3	1	43-45	104-106	1	2
4	11-15	43-45	104-106	1 1	2 3
5	16-17	45;47	none	none	none
6	18-20	388-409	none	none	none
7	27-30	47-48	109-112	2	5
8	24-25	43-52	108	2	4
9	21-22	62-67	none	none	none
10	23,26	43-52	108	2	4

SPECIFIC STUDY SUGGESTIONS

As in Unit I, it is important that you follow the procedures recommended in the "Instructions" section of the Unit Study Guide in completing Unit II. If you are still not sure of these procedures after completing Unit I, or if some time has elapsed since you have completed Unit I and you've forgotten this procedure, study the "Instructions" section before continuing any further.

Most of the supplemental material for this unit has been recorded on audio cassettes. Diagrams and charts to be used with these tapes are to be found in the Unit Study Guide. These materials are keyed to specific objectives in the Study Directory.

In completing this unit, it is recommended that you first read the textbook material to get an overview of the content of the unit, then use the supplemental material for each objective. The cassette tapes which accompany this unit have been recorded on both sides of the tape. These tapes for this course are numbered consecutively and are listed in the Study Directory to assist you in locating the appropriate tape quickly.

After you have selected the appropriate tape for a specific objective, insert the tape in a player. The tape contains instructions as to whether a diagram or chart should be used in conjunction with the tape and, if so, the number of the diagram or chart. Occasionally the tape will contain instructions to stop the tape, complete certain exercises, etc., and will also contain instructions as to how you can check your answers. It is very important that whenever the tape instructs you to use a diagram or chart, or to complete an exercise, that you follow these instructions. If you do not use the supplemental materials as directed, you may skip some information which is essential to answering some of the questions on the end-of-unit test.

Do not hesitate to rewind a tape and listen to a section as often as needed, or to stop the tape to do computations on scratch paper. The more you listen to these tapes and use the accompanying charts and diagrams, the more you increase the likelihood of receiving a high score on the end-of-unit test.

The taped material for each unit has been divided into sections which pertain to different objectives, and these sections are keyed to individual objectives in the Study Directory. Since these materials are keyed to individual objectives, it is possible to listen to the sections which pertain to a certain objective or objectives until you're sure you have mastered that objective. TAPES 1 and 2 are to be used with Unit II.

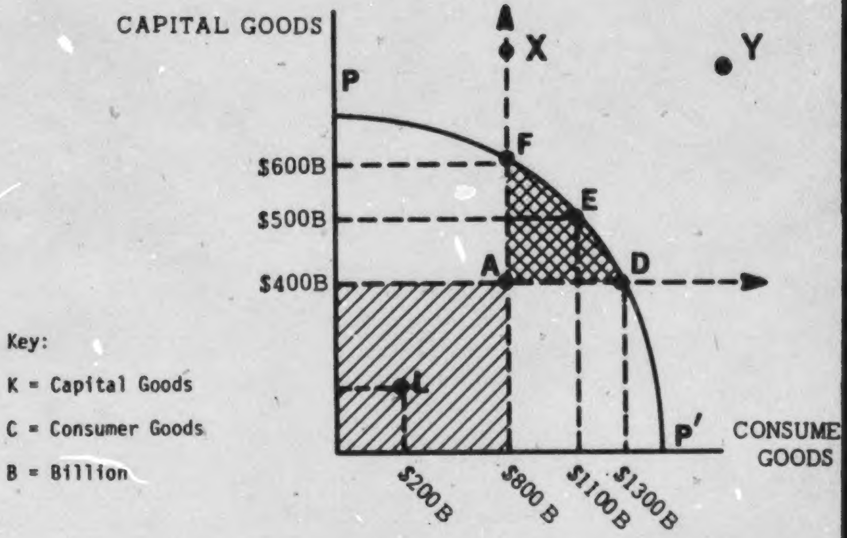
However, there are other ways to use the taped materials. Although sections of the taped materials are keyed to individual objectives, the materials are often cumulative. Therefore, you may find it useful to listen to all taped material for a unit, keeping a list of the objectives for the unit nearby, so you are constantly aware of the objective the tape was designed to teach. You should experiment until you find the method that best suits your study habits.

Regardless of the method of study you choose, you should always consult the Study Directory after you take Form B of the self-diagnostic test and before you request the end-of-unit test if the results indicate a need for additional study on an objective. Consulting the Study Directory at this time will enable you to: study only the materials for the objectives requiring additional study; use your study time more effectively and efficiently; "zero-in" on the material you really need to study; and minimize time spent reviewing material already learned.

SUPPLEMENTAL MATERIALS

The Supplemental Materials for this unit have been recorded on audio cassettes. The diagrams and tables on the following pages should be used in conjunction with these tapes.

Audiotapes 1 and 2 are to be used with Unit II.



CASE 1: Production at point A: K = $400B: C= $800B.

ALTERNATIVES WHICH ARE DEFINITELY LESS PREFERABLE THAN POINT A; THAT IS ALTERNATIVES WHICH WOULD WORSEN THE NATION'S ECONOMIC PERFORMANCE, COMPARED TO POINT A.

CASE 2: Movement to point L: K = $200B; C = $200B. Any other point in the cross-slashed area is also clearly less desirable than point A.

ALTERNATIVES WHICH ARE DEFINITELY PREFERABLE TO POINT A.

CASE 3: Movement to point F: K = $600B; C = $800B.

CASE 4: Movement to point D: K = $400B; C = $1300B.

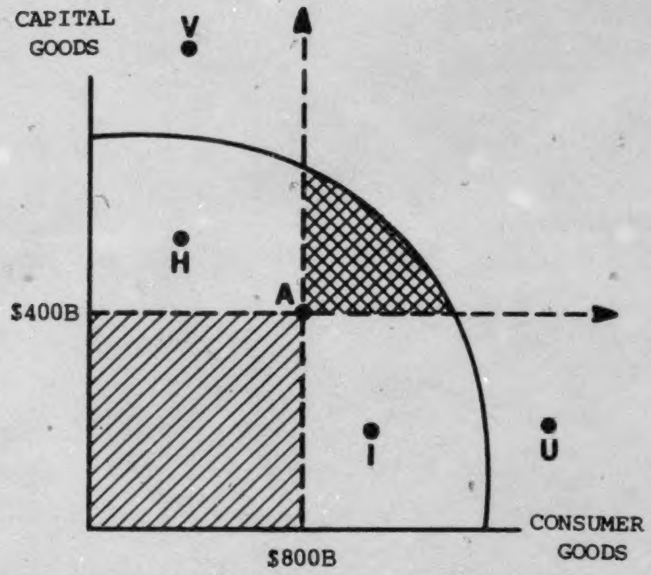
CASE 5: Movement to point E: K = $500B; C = $1100B.

CASE 6: Movement to any other point in the cross-slashed area: Production of one or both products increases.

CASE 7 All points, like X or Y, between the lines extending vertically and horizontally from point A, but above the production possibilities frontier. These points are preferable to point A but are presently unattainable.

Fig. 2-1: Production possibilities and economic growth

(TO BE USED WITH SECTION 1 OF UNIT II TAPES)



CASE 1: Production at point H. Capital goods output increases but consumer goods production decreases.

CASE 2: Production at point I. Consumer goods output increases but capital goods production decreases.

CASE 3: Production at point V. This is the same as Case 1; that is, the output of capital goods increases but the output of consumer goods decreases.

CASE 4: Production at point U. This is the same as Case 2; that is, the output of consumer goods increases but the output of capital goods decreases.

Fig. 2-2: Noncomparable points of production

(TO BE USED WITH SECTION 1 OF UNIT II TAPES)

TABLE 2-1: GNP IN A SIMPLIFIED ECONOMY

BREAD				BEER			
Producer	Product	Value of Sales	Value Added	Producer	Product	Value of Sales	Value Added
Farmer	Grain	$200	$200				
Miller	Flour	300	100	Farmer	Grains & Hops	$300	$300
Baker	Bread	450	150	Brewer	Beer	500	200
Retail Store	Sales Service	500	50	Retail Store	Sales Service	600	100
			$500				$600

GNP = Market value of bread + market value of beer = $500 + $600 = $1100, or,

GNP = Total of all value added = $500 + $600 = $1100.

(TO BE USED WITH SECTION 2 OF UNIT II TAPES)

YEAR	PRODUCTS			PRICES PER UNIT		
	EGGS (DOZ.)	MILK (GAL.)	FLOUR (LB.)	EGGS	MILK	FLOUR
1650	100	50	100	\$2.00	\$2.00	\$1.00
1660	200	60	150	2.20	2.20	1.10
1670	300	70	200	2.40	2.40	1.20
1680	300	70	200	2.60	2.60	1.30

Since these products are all final goods, we could then calculate Agrania's GNP for each of the years:

$$GNP_{1650} = (Q_E \times P_E) + (Q_M \times P_M) + (Q_F \times P_F)$$

$$= (100 \text{ Doz.} \times \$2.00/\text{Doz.}) + (50 \text{ Gal.} \times \$2.00/\text{Gal.}) + (100 \text{ Lb.} \times \$1.00/\text{Lb.})$$

$$= \$200 + \$100 + \$100 = \$400 = GNP_{1650}$$

(TO BE USED WITH SECTION 2 OF UNIT II TAPES)

TABLE 2-3: AGRANIAN GNP

YEAR	GNP	PRICE INDEX	REAL GNP
1650	$ 400	100	$400
1660	737	110	670
1670	1128	120	940
1680	1222	130	940

If we also know that the relevant market basket of goods was: 1 doz. eggs, 1 gal. milk, and 1 lb. flour, a price index for Agrania can be calculated as follows:

$$\text{PRICE INDEX NUMBER}_{1660} = \frac{\text{COST OF MARKET BASKET}_{1660}}{\text{COST OF MARKET BASKET}_{1650}} \times 100$$

$$= 100 \times \frac{\$2.20 + \$2.20 + \$1.10}{\$2.00 + \$2.00 + \$1.00} = \frac{\$5.50}{\$5.00} \times 100 = 110$$

$$\text{REAL GNP}_{1660} = \frac{\text{GNP}_{1660}}{\text{INDEX NUMBER}_{1660}} \times 100 = \frac{\$737}{\$110} \times 100 = \$670$$

Notice the importance of looking at GNP in real terms. Table 2-3 tells us that actual GNP rose from $1128 to $1222 between 1670 and 1680. But according to the production data in Table 2-2 this cannot be. Production of goods was identical in both years. This is exactly what the Real GNP figures in Table 2-3 tell us. Real GNP in both 1670 and 1680 was $940. Inflation, i.e., rising prices, caused the artificial rise in GNP between 1670 and 1680.

(TO BE USED WITH SECTION 2 OF THE TAPED MATERIALS FOR UNIT II)

TABLE 2-4. NATIONAL INCOME ACCOUNTING

Terms and Interrelationships	Explanation
GNP or Gross National Product	Total value of all final goods produced per time period (often one year) or the total value added by all productive acts in that period
minus Capital Consumption Allowances	Needed to replace depleted or worn out capital
equals NNP or Net National Product	A more accurate estimate of the value of the output produced since it accounts for the need to replace worn out capital
minus Indirect Business Taxes	Does not represent production of goods, but revenue collection for the government by business
equals National Income	An improved measure of the value of total output. National Income is the best measure of the value of this output in the system of national income accounting.
minus Social Security Contributions, Corporate Income Taxes, and Undistributed Corporate Profits	People cannot spend income which they do not receive. These items are deducted from income before it ever reaches the households; therefore they can't spend it.
plus Transfer Payments	Households receive these as income and therefore can spend them although they do not earn this income
equals Personal Income	People's incomes before taxes
minus Personal Income Taxes	People cannot spend this amount; it is taxed away before it is received
equals Disposable Income	The amount of income people have available to spend or the household sector's "take-home" pay
minus Personal Savings interest paid by consumers	The amount people choose not to spend; what people cannot spend this year because of past decisions
equals Personal Consumption Expenditures	What people actually spend as consumers art of their disposable income

(TO BE USED WITH SECTION 3 OF UNIT II TAPES)

TABLE 2-5

PROBLEMS WITH THE CURRENT SYSTEM OF NATIONAL INCOME ACCOUNTS

1. Nonmarket transactions are not accurately accounted for.
2. They do not reflect changes in leisure time.
3. Product quality changes over time--the price indexes used may not accurately reflect this.
4. Population changes.
5. Income distribution changes.
6. International comparisons are misleading.
7. Values change over time.
8. Environmental considerations are weak.

(TO BE USED WITH SECTION 4 OF UNIT II TAPES)

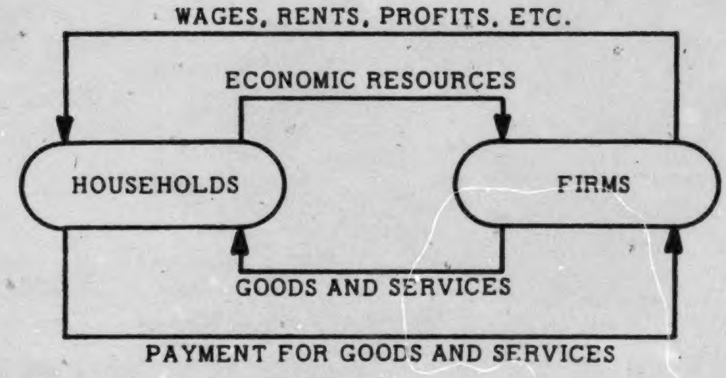


Fig. 2-3: Circular flow of income in a no-government economy

(TO BE USED WITH SECTION 5 OF UNIT II TAPES)

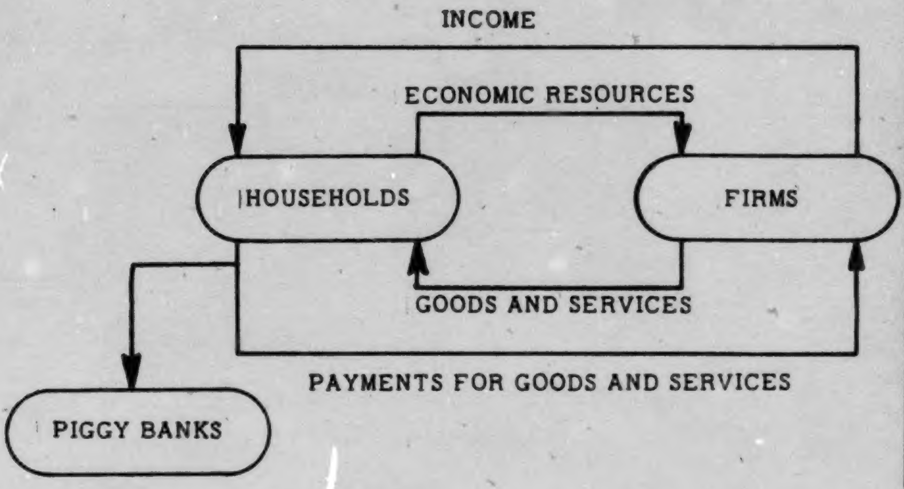


Fig. 2-4: Leakages in the system

(TO BE USED WITH SECTION 5 OF UNIT II TAPES)

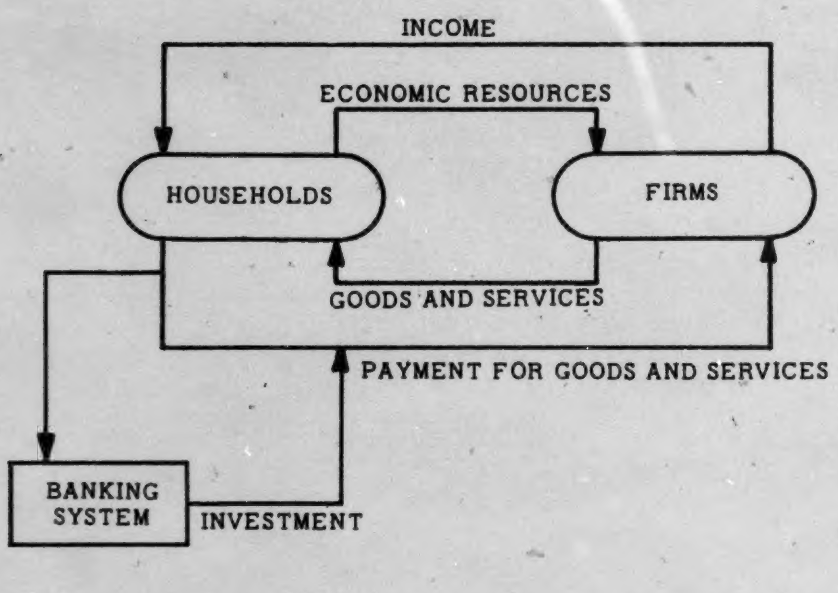
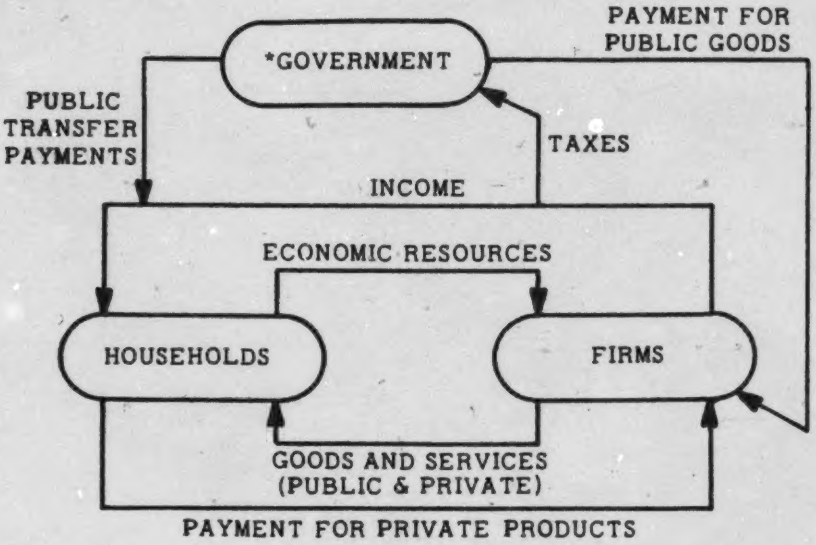


Fig. 2-5: Leakages and additions to the system

(TO BE USED WITH SECTION 5 OF UNIT II TAPES)



— *Assume the government has the power to print and spend paper money.

Fig. 2-6: The circular flow with government added

(TO BE USED WITH SECTION 5 OF UNIT II TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST, FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

1. In the following hypothetical economy,

Producer	Product
Seed Grower (with free inputs)	$100 seeds sold to farmer
Farmer	$300 wheat sold to miller
Miller	$500 flour sold to baker
Baker	$1000 bread sold to households for consumption

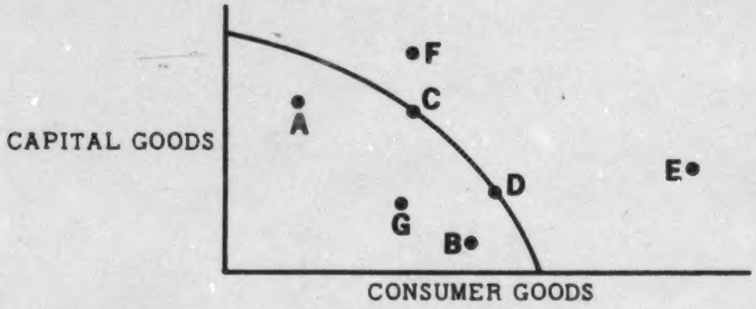
GNP would be:

a. $1000
b. $1100
c. $1500
d. $1900
e. None of the above

2. A price index is an economic tool designed to:

a. Show what living conditions would be like if GNP had not changed since the base year
b. Correct national income account figures for all changes which have occured since the base year
c. Convert national income account figures to real terms so more meaningful comparisons can be made over time
d. All of the above
e. None of the above

ANSWER QUESTIONS 3 to 6 ON THE BASIS OF THE FOLLOWING PRODUCTION POSSIBILITIES DIAGRAM



3. Which of the following points would society least prefer?

   a. A
   b. B
   c. C
   d. F
   e. There is insufficient information given to answer the question

4. Which of the following points would society most prefer?

   a. A
   b. C
   c. E
   d. F
   e. There is insufficient information given to answer the question

5. Which of the following points would result in the slowest outward movement in the production possibilities frontier (using only the information given.)

   a. A
   b. B
   c. C
   d. E
   e. F

6. Without additional information about the society in question, a decision could not be made between which of the following sets of points?

   a. A and F
   b. B and E
   c. C and G
   d. A and B
   e. All of the above

ANSWER QUESTIONS 7 TO 10 ON THE BASIS OF THE FOLLOWING INFORMATION ABOUT THE HYPOTHETICAL ECONOMY OF JUNIPER BERRY ISLAND. THE RELEVANT MARKET BASKET OF GOODS FOR CALCULATING JUNIPER BERRY ISLAND'S PRICE INDEX IS: 1 DOZEN EGGS, 1 POUND OF BACON, AND 1 GALLON OF GIN. THE BASE YEAR FOR THIS PRICE INDEX IS YEAR 1.

YEAR	OUTPUT			PRICES		
	Eggs	Bacon	Gin	Eggs/Doz.	Bacon/lb.	Gin/Gal
Year 1	1000 Doz.	1000 lb.	1000 gal.	$3	$3	$4
Year 2	2000 Doz.	1000 lb.	2000 gal.	$2	$5	$4
Year 3	500 Doz.	2000 lb.	4000 gal.	$5	$4	$3
Year 4	3000 Doz.	3000 lb.	500 gal.	$1	$2	$47

7. Which year had the highest money (current dollar) GNP?

   a. Year 1
   b. Year 2
   c. Year 3
   d. Year 4
   e. Years 2 and 4 are tied

8. Which year had the highest real (constant dollar) GNP?

   a. Year 1
   b. Year 2
   c. Year 3
   d. Year 4
   e. Years 3 and 4 are tied

9. Which year had the lowest money (current dollar) GNP?

   a. Year 1
   b. Year 2
   c. Year 3
   d. Year 4
   e. Years 3 and 4 are tied

10. Which year had the lowest real (constant dollar) GNP?

   a. Year 1
   b. Year 2
   c. Year 3
   d. Year 4
   e. Years 2 and 3 are tied

ANSWER QUESTIONS 11-14 ON THE BASIS OF THE NATIONAL INCOME ACCOUNT GIVEN BELOW FOR THE HYPOTHETICAL ECONOMY OF THE REMUS FREE REPUBLIC (FIGURES IN DOLLARS)

GNP (1000) minus Capital Consumption Allowances (100)

equals (900) minus Indirect Business Taxes (100)

equals (800) minus Social Security Contributions
Corporate Income Taxes and Undistributed
Corporate Profits (200)
plus Transfer Payments (100)

equals Personal Income (700) minus Personal Income Taxes (200)

equals (500) minus Personal Savings and Interest
by Consumers (100)

equals (400)

11. The best measure of total output in the Remus Free Republic is:

    a. $1000
    b. $ 900
    c. $ 800
    d. $ 700
    e. $ 500

12. The best measure of total output in the Remus Free Republic (as in #11 above) would be called Remusian:

    a. GNP
    b. Disposable income
    c. NNP
    d. Personal income
    e. National income

13. Which of the following would be the best estimate of take-home pay in the Remus Free Republic?

    a. $1000
    b. $ 900
    c. $ 800
    d. $ 700
    e. $ 500

14. The best estimate of take-home pay in the Remus Free Republic (as in #13 above) would be called Remusian:

    a. GNP
    b. Disposable income
    c. NNP
    d. Personal income
    e. National income

15. The most important term in our system of National Income Accounts is:

    a. GNP
    b. Disposable income
    c. Personal income
    d. National income
    e. There is insufficient information given to answer this question

16. According to the 1968 statistics given in the text, the richest major nation in the world (in terms of per capita GNP), the U. S., was approximately how many times as rich as poor nations like India and Burma?

    a. 5
    b. 10
    c. 50
    d. 1000
    e. 5000

17. The 1968 statistics given in the text which indicate that per capita GNP in the U.S. was about three times the per capita GNP in the U.S.S.R., prove that the average U.S. citizen is:

    a. About three times as happy as the average Soviet citizen
    b. Much more than three times as happy as the average Soviet citizen because of the repressive political system in the U.S.S.R.
    c. Much more than three times as happy as the average Soviet citizen because the price of rye whiskey is also very high in the U.S.S.R.
    d. Only (b) and (c) above
    e. None of the above

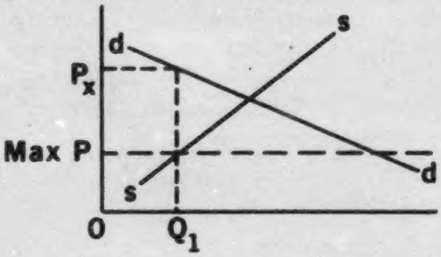
18. Which of the following statements is correct?

    a. If supply declines and demand remains constant, equilibrium price will fall
    b. If supply increases and demand remains constant, equilibrium price will rise
    c. If demand decreases and supply increases, equilibrium price will rise
    d. If supply increases and demand increases more, equilibrium price will fall
    e. None of the above

19. In the standard supply-and-demand diagram for a competitive market, what happens when supply increases?

    a. Price rises and quantity supplied falls
    b. Quantity demanded rises and price falls
    c. Price and quantity demanded fall
    d. Quantity demanded, quantity supplied, and price rise
    e. Quantity demanded is unchanged while price and quantity supplied decline

20. In the following diagram, what happens if the legally fixed price for sugar is abolished?



    a. The price will fall below the legally fixed price
    b. The price will remain unchanged
    c. The price will fall to zero
    d. The price will rise to Px
    e. None of the above

21. For the last 30 years, GNP growth has averaged 4 percent per year. Consequently, a NAIVE forecasting model ($GNP_{\text{next year}} = 1.04\ GNP_{\text{this year}}$) has been developed. This model sometimes makes erroneous forecasts because:

    a. A naive theory never works very well in predicting economic activity
    b. GNP growth varies rather widely around this 4 percent figure
    c. Factors left out of this naive model alter the actual growth rate of the economy
    d. All of the above
    e. Only (b) and (c) above

22. A naive forecasting model may be good at predicting trends but is not:

    a. Good at predicting turning points
    b. Very reliable for specific sectors of the economy
    c. Reliable for predicting small changes
    d. All of the above
    e. Only (a) and (b)

23. Of the following, which problem area is most likely to necessitate serious overhaul in our National Income Accounting methods?

    a. Failure to include services performed by households
    b. Failure to include the output of home gardens
    c. The exclusion of environmental decay and inclusion of goods needed solely to correct problems caused by our present economic and social systems
    d. The fact that the appropriate market basket of goods for our price index changes over time
    e. The fact that salmon snagged by fishermen in Michigan are not counted for their food value

24. Problems with our method of National Income Accounting include which of the following?

    a. GNP is biased downwards because many nonmarket goods are left out
    b. GNP is biased upwards because many things that should not count as "goods" are included in GNP
    c. GNP is biased downwards as leisure time increases over a period of time (that is, we COULD produce more IF we worked as many hours as before)
    d. All of the above
    e. None of the above

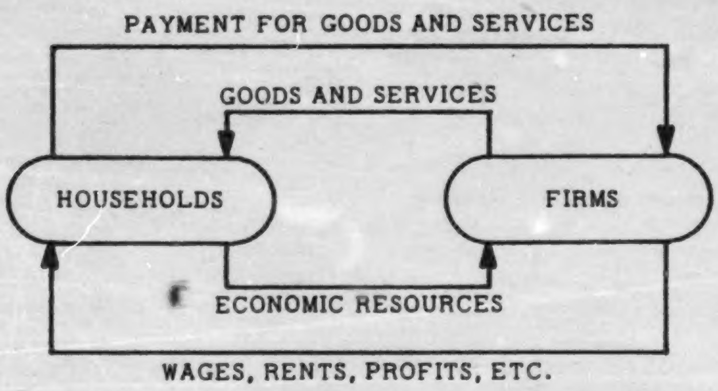
25. Our current National Income Accounts do not take into account which of the following?

    a. The increasing tax collections taken by the federal income tax
    b. Social Security payments
    c. The services provided by housewives
    d. All of the above
    e. None of the above

26. When the Dover Company discharges pollutants into the waters of Michigan in the course of producing its products, our present methods of National Income Accounting:

    a. Overstate the contribution Dover Company makes to our economic wellbeing
    b. Disregard the nonmarket effects of Dover activities
    c. Accurately reflect the Dover Company's contribution to GNB as presently defined
    d. All of the above
    e. Only (a) and (b) above

ANSWER QUESTIONS 27 AND 28 ON THE BASIS OF THE FOLLOWING MODEL.



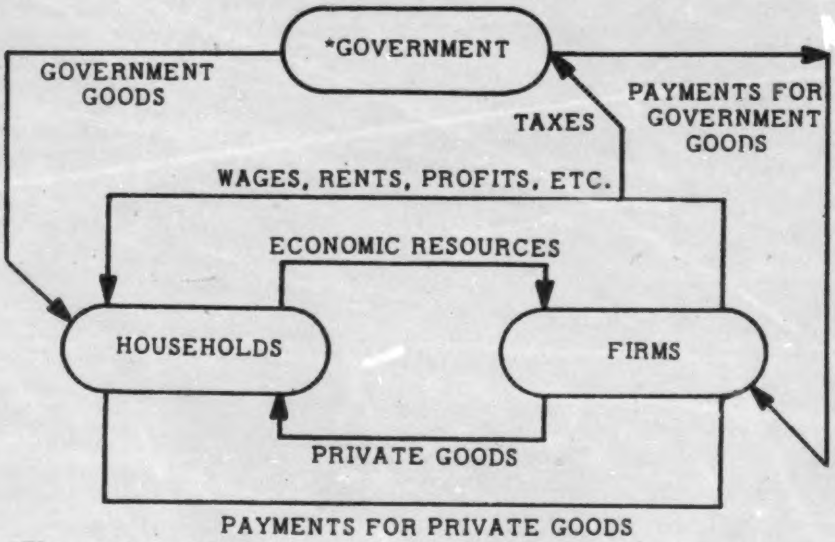
27. In this model, if the profits of the firms increased:

    a. Household income would fall
    b. Prices of goods and services would rise
    c. Unemployment would result
    d. The money flow would exceed the product flow
    e. None of the above

28. If the households started to save 10% of their incomes but the circular flow of income remained unchanged:

    a. Firms would suffer losses
    b. The savings somehow got back into the circular flow
    c. Unemployment would occur
    d. Both (a) and (c) above
    e. None of the above

ANSWER QUESTIONS 29 AND 30 ON THE BASIS OF THE FOLLOWING MODEL.


*GOVERNMENT
GOVERNMENT GOODS
TAXES
PAYMENTS FOR GOVERNMENT GOODS
WAGES, RENTS, PROFITS, ETC.
ECONOMIC RESOURCES
HOUSEHOLDS
FIRMS
PRIVATE GOODS
PAYMENTS FOR PRIVATE GOODS

*The government has the power to print and spend money.

29. If the economy is at full employment and the government increases its spending:

    a. Inflation will always occur
    b. Unemployment will always occur
    c. It is possible that neither inflation nor unemployment will always occur
    d. Firms will normally suffer losses as a result
    e. None of the above is a correct answer

30. If the government increases taxes but not government spending:

    a. Firms will receive less money
    b. Households will receive less money
    c. Production of government goods will increase
    d. Both (a) and (b)
    e. None of the above is a correct answer

CHECK YOUR ANSWERS BY TURNING TO ANSWER KEY FOR
FORM B OF SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM B

1. a
2. c
3. e
4. e
5. b
6. e
7. d
8. c
9. a
10. d
11. c
12. e
13. e
14. b
15. e
16. c
17. e
18. e
19. b
20. e
21. e
22. d
23. c
24. d
25. c
26. d
27. e
28. b
29. c
30. d

DO NOT REQUEST THE END-OF-UNIT TEST UNTIL YOU CAN ANSWER
ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC
TEST WITHOUT ANY DIFFICULTY

III

BASIC SECTORS
OF
THE ECONOMY

OVERVIEW

The purpose of this unit is to provide you with an understanding of the major sectors which make up a market economy. You should be aware of the historical development and growth of each of the following sectors: labor, private goods, and government. You should also understand how each of these sectors functions within the framework of a market-oriented economic system. Upon completion of the unit, you should be able to (1) apply basic (and where appropriate, more refined economic tools) to an analysis of any of the above sectors and (2) have a basic comprehension of alternative theories of consumption behavior and alternative principles, theories, and types of taxation and fiscal policy.

PERFORMANCE OBJECTIVES

1. Given a labor market model, determine the wage-employment equilibrium for both fully competitive and noncompetitive situations, and determine the effect of each of the following on the labor market:
    a. Unionization of a previously competitive labor market
    b. The causes and effects of alternative union goals on the labor market.
2. Identify the expected effects of sexism or government intervention in specific labor markets.
3. Identify correct summary statements about the effect of major labor legislation, such as the Davis - Bacon Act, on wages, prices, employment, or the labor market in general.
4. Identify correct summary statements about the history of the labor movement in the U.S.
5. Differentiate between public (collective or social) goods and private goods.
6. Demonstrate an understanding of the major alternative theories of taxation and of alternatives to the taxation method of financing government expenditures by:
    a. Identifying possible methods of financing government expenditures
    b. Determining the most appropriate method of financing government expenditures in a given employment situation
    c. Determining the effect of money creation in various employment situations
    d. Identifying examples of various principles of taxation such as the benefits principle
    e. Determining the effect of the output of public and private goods on prices and employment.

7. Demonstrate an understanding of alternative tax structures by:

    a. Identifying correct summary statements about the tax structures of the U.S.
    b. Classifying tax structures as progressive, proportional or regressive
    c. Determining the amount of tax owed in a given tax structure, and
    d. Selecting the most appropriate tax structure for a given situation.

8. Demonstrate an understanding of relationships among income, investment, consumption, and saving in Keynesian economics by:

    a. Defining dissaving in relation to consumption and earnings
    b. Identifying determinants of consumer spending
    c. Identifying relationships among income, investment, consumption, and savings in an economy with no government and no foreign trade.

9. Demonstrate an understanding of alternative theories of consumption behavior by:

    a. Identifying theories of consumption behavior most widely used by economists
    b. Classifying theories of consumption behavior according to certain characteristics
    c. Identifying Keynesian evaluations of alternative theories of consumption behavior.

10. Differentiate between long and short-run Keynesian consumption functions.

11. Demonstrate an understanding of the relationship among marginal and average propensities to consume and save by:
    a. Defining MPC, APC, MPS, APS, and the Keynesian consumption function
    b. Defining the relationship between a constant marginal propensity to save and the percentage of income saved at various income levels
    c. Identifying implications of the fact that the consumption schedule starts at a non-zero point
    d. Identifying the relationship between consumption and saving schedules
    e. Relating marginal propensity to consume to modern employment theory
    f. Identifying relationships among family income, consumption, location of consumption schedules, and MPC
    g. Identifying relationships between APC and various levels of income
    h. Identifying implications of the shape of the consumption function
    i. Identifying relationships between income and APC
    j. Identifying relationships between MPC and APC

12. Identify major determinants of investment on changes in investment.

13. Identify reasons why saving must equal investment in a simple Keynesian model with no government and no foreign trade.

SELF-DIAGNOSTIC TEST FORM A

1. If the employer or supervisor were the principle source of discrimination against women in the job market, we would expect the male/female differential in earnings to be:

   a. Larger for self-employed women than for women who are not self-employed
   b. Smaller for self-employed women than for women who are not self-employed
   c. Larger in the private sector of the economy than in the government sector
   d. Larger because very few women would be employed at any wage
   e. None of the above.

2. The Davis-Bacon Act adversely affects Appalachia because:

   a. In its attempts to save the government money, it leads to reduction in the minimum wage
   b. When government contracts are awarded there, the required high wages induce contractors to hire outside labor rather than the cheap but unskilled Appalachian workers
   c. It prohibits unionization of Appalachian workers
   d. It exempts Appalachia from minimum wage legislation
   e. None of the above.

3. At the present time, the percentage of the labor force that is unionized in the U.S. is:

   a. Growing rapidly
   b. At its highest level ever
   c. Declining slowly
   d. 100 percent in blue collar jobs
   e. Both (a) and (b) above.

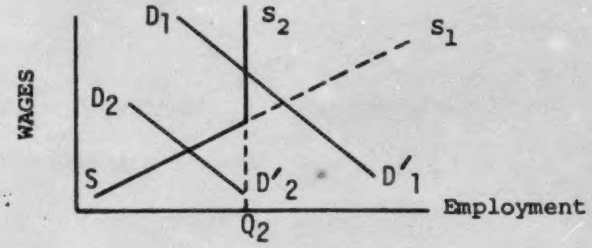
4. If a previously competitive labor market becomes unionized:

   a. Wages might rise
   b. Declining employment might be halted
   c. Wages might remain unchanged
   d. All of the above
   e. Only (a) and (c) above.

5. If a union sets a minimum wage below which no union members will work:

   a. Wages will normally be higher than if the union did not exist
   b. Employment will normally be lower than if the union did not exist
   c. Employment will normally be higher than if the union did not exist
   d. Both (a) and (b) above
   e. None of the above.

6. If demand for labor has fallen from $D_1D'_1$ to $D_2D'_2$ in the following diagram, and the workers organize a union and reconstruct the supply labor to SS_2, then:



   a. Wages and employment will be higher than they would be if the union had not existed
   b. Wages will be higher, and employment lower than they would be if the union had not existed
   c. Wages will be higher than they would be if the union had not existed, but employment will not change
   d. Both wages and employment will nevertheless be the same as they would have been had the union not existed
   e. None of the above.

7. Government expenditures could be financed by which of the following methods?

   a. Confiscation of property or money
   b. Money creation
   c. Taxation
   d. All of the above
   e. Only (b) and (c) above.

8. In a full employment situation, money creation:

   a. Causes inflation
   b. Causes a reduction in the real value of cash balances that people are holding
   c. Shifts resources from the private sector to the government sector
   d. All of the above
   e. Only (a) and (b) above.

9. Which of the following would be an example of a tax which follows the benefit principle of taxation?

   a. A sales tax on food
   b. An excise tax on whiskey
   c. A property tax
   d. Both (a) and (b) above
   e. None of the above.

10. An adequate definition of a pure public or collective good is one which is:

    a. Given to all taxpayers
    b. Given only to those on welfare
    c. Given to those who buy in co-ops or collectives
    d. Supplied to all people, whether or not they pay for it
    e. So pure that private producers would be embarrassed to produce it so it must be provided by public agencies.

11. Which of the following taxes are generally regressive?

    a. Local property taxes
    b. State sales taxes
    c. The federal income tax
    d. All of the above
    e. Only (a) and (b) above.

12. Dissaving is a situation where:

    a. More is being consumed than earned
    b. People like to spend a lot of money
    c. Some people aren't getting enough income
    d. Income is negative
    e. The prices of goods and services are too high for people to afford them.

13. In an economy with no government and no foreign trade:

    a. Income equals investment plus consumption
    b. Saving equals income minus consumption
    c. Investment equals savings
    d. All of the above
    e. Only (a) and (b) above.

14. The long run consumption function:

    a. Is used only when one is using the permanent income hypothesis
    b. Has a steeper slope than the short run consumption function
    c. Has a large positive vertical intercept
    d. Both (b) and (c) above
    e. None of the above.

15. In a simple Keynesian model with no government and no foreign trade, savings must equal investment because:

    a. Any two things equal to the same thing must be equal to each other
    b. Of the negative slope of the investment function
    c. The marginal propensity to invest exceeds the average propensity to invest
    d. Of the life-cycle hypothesis of consumption behavior
    e. None of the above.

16. An income tax is necessarily progressive if:

    a. The tax rate on total income exceeds the rate on increments to income at all income levels
    b. With increases in income, the amount of tax payable increases more than proportionately to the increase in income
    c. With increases in income the amount of tax increases, but not necessarily more than proportionately
    d. Less money is collected from low-income people than from high-income people
    e. None of the above.

17. All the following are examples of collective goods except:

    a. Highways
    b. Fire and police protection
    c. Space exploration
    d. Group insurance
    e. National defense.

18. The desire to invest does not depend on which of the following?

    a. The hope for increased profit
    b. The growth of population
    c. New territorial frontiers
    d. The desire to smooth out consumption throughout one's life
    e. None of the above.

19. A constant marginal propensity to save indicates that:

    a. The same percentage of increases in income will be saved regardless of the starting level of income
    b. The total amount saved is the same at every income level
    c. A rich man saves a smaller amount of his income than a poor man
    d. The total percentage of income saved is always constant
    e. None of the above.

20. One implication of the fact that the consumption schedule starts out at a nonzero or subsistence point is that:

    a. The average propensity to consume will fall throughout the schedule so that on the average the rich will be saving more than the poor
    b. The average propensity to consume would be rising so that the rich will be saving less of their income than the poor
    c. The average propensity to consume will be constant
    d. The number of poor is increasing as income rises
    e. None of the above.

21. Which of the following best describes the relationship between the consumption and saving schedules?

    a. They are independent, done by different people for different reasons
    b. They are the same thing
    c. They differ because one refers to the community and the other to a family
    d. They are intersecting twins, like supply and demand
    e. They are mirror images, their sum adding up to the 45-degree line.

22. Modern employment theory hypothesizes that:

    a. APC is always less than MPC
    b. MPC is equal to or greater than unity at all income levels
    c. APS is positive at all income levels
    d. MPC is negative at low income levels
    e. MPC is greater than zero, but less than unity.

23. The Keynesian consumption function refers to:

    a. The average amount of consumption that each household engages in
    b. The average amount of saving that each household engages in
    c. The amount that people choose to spend on consumption at each different income level
    d. The APC associated with each income level
    e. None of the above.

24. The value-added tax:

    a. Has been tried in some nations but is not widely used in the United States
    b. Taxes the difference between the amount a firm receives for what it sells and the amount it spends on intermediate materials
    c. Taxes the total value of the output of all nonexempted business enterprises
    d. Both (a) and (b) above
    e. None of the above.

25. The overall (i.e., federal, state AND local) tax structure in the U.S. could validly be considered:

    a. Progressive
    b. Proportional
    c. Regressive
    d. Either (a) or (b) above; experts disagree
    e. Either (b) or (c) above; experts disagree.

26. When capital gains are considered as income, the overall tax structure in the U.S. becomes:

    a. More progressive
    b. Almost perfectly proportional
    c. More regressive
    d. More or less identical with the Soviet tax structure
    e. None of the above.

27. Regressive taxation could sensibly be justified on the equity consideration that:

    a. The poor consume more government services than the rich so they should pay a larger percentage of their incomes in taxes
    b. Everyone should pay the same percentage of their incomes in taxes
    c. The rich can afford to pay a larger percentage of their incomes in taxes
    d. None of the above--regressive taxation is a sin
    e. None of the above.

28. Which of the following theories of consumption behavior is most widely used by economists?

    a. Jevons's Sunspot Theory
    b. The Keynesian Consumption Function
    c. The Keeping-Up-With the Joneses Hypothesis
    d. The Life-Cycle Hypothesis
    e. The Permanent Hypothesis

29. In which of the following theories of consumption behavior would households dissave when young, save when middle aged, and dissave again when elderly?

    a. Jevons's Sunspot Theory
    b. The Keynesian Consumption Function
    c. The Keeping-Up-With the Joneses Hypothesis
    d. The Life-Cycle Hypothesis
    e. The Permanent Income Hypothesis.

30. Many Keynesians feel that the Life-Cycle Consumption Hypothesis may well hold merit for an individual household:

    a. And should actually replace Keynesian economics
    b. But would average out to the Keynesian Consumption Function in a large economy
    c. But has no empirical merit at all
    d. But requires us to draw a four dimensional graph and is thus useless for economic analysis
    e. None of the above because all Keynesians think the idea is useless.

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM A OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. b
2. b
3. c
4. d
5. d
6. d
7. d
8. d
9. e
10. d
11. e
12. a
13. d
14. b
15. a
16. b
17. d
18. d
19. a
20. a
21. e
22. e
23. c
24. d
25. e
26. c
27. a
28. b
29. d
30. b

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook: Roger Miller, Economics Today. Canfield Press, 1973. Chapters 4 (except pp. 81-83), 5, 6, and 8; Issues III, IV, V, and VI.

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	4-6	74-81	144-148	3	1
2	1	92-98	None	None	None
3	2	71-81 88-91	None	None	None
4	3	71-81 88-91	None	None	None
5	10, 17	101-104	149-152	3	2
6	7, 8, 9	104-110	153-154	3	3
7	11, 16, 24-27	104-110 114-126 127-132 133-138	153-154	3	3
8	12-13	158-159 167-168 170	155-162	4	4
9	28-30	159-167	163-165	5	5
10	14	163-164	163-165	5	5
11	19-23	159-167	155-162	4	4
12	18	168	None	None	None
13	15	167-168	155-162	4	4

SPECIFIC STUDY SUGGESTIONS

As in Units I and II it is important that you follow the procedures recommended in the Instructions section of the Unit Study Guide in completing the Unit. If you are still not sure of these procedures, or if some time has elapsed since you have completed Units I and II and you've forgotten this procedure, study the Instructions section before continuing any further.

Most of the supplemental material for this unit has been recorded on audio tapes 3, 4, and 5. Diagrams and charts to be used with these tapes are to be found in the Unit Study Guide. These materials are keyed to specific objectives in the Study Directory.

In completing this unit, it is recommended that you first read the textbook material to get an overview of the content of the unit, then use the supplemental material for each objective. The cassette tapes which accompany this unit have been recorded on both sides. These tapes for this course are numbered consecutively and are listed in the Study Directory to assist you in locating the appropriate tape quickly.

After you have selected the appropriate tape for a specific objective, insert the tape in a player. The tape contains instructions as to whether a diagram or chart should be used in conjunction with the tape, and if so, the number of the diagram or chart. Occasionally the tape will contain instructions to stop the tape, complete certain exercises, etc., and will also contain instructions as to how you can check your answers. It is very important that whenever the tape instructs you to use a diagram or chart, or to complete an exercise, that you follow these instructions. If you do not use the supplemental materials as directed, you may skip some information which is essential to answering some of the questions on the end-of-unit test.

Do not hesitate to rewind a tape and listen to a section as often as needed, or to stop the tape to do computations on scratch paper. The more you listen to these tapes and use the accompanying charts and diagrams, the more you increase the likelihood of receiving a high score on the end-of-unit test.

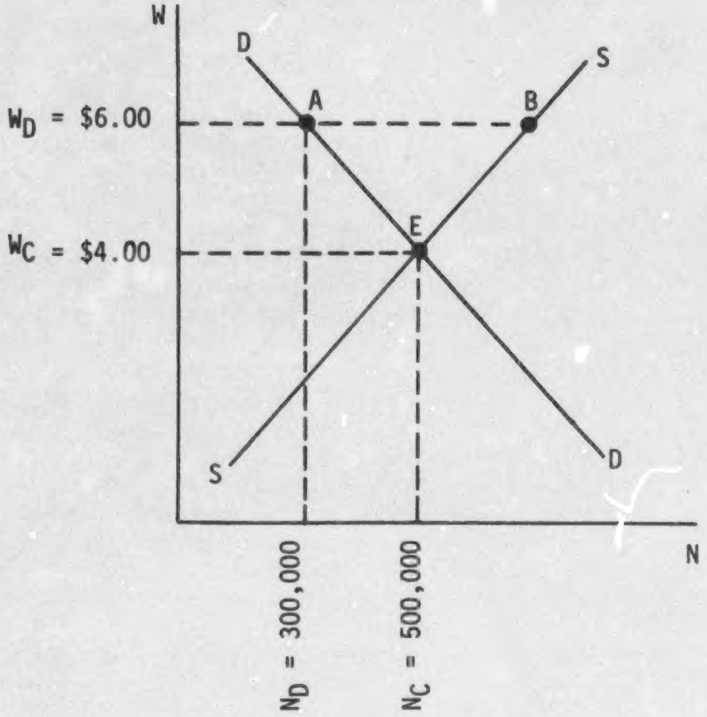
The taped material for each unit has been divided into sections which pertain to different objectives, and these sections are keyed to individual objectives in the Study Directory. Since these materials are keyed to individual objectives, it is possible to listen to the sections which pertain to a certain objective or objectives until you're sure you have mastered that objective.

However, there are other ways to use the taped materials. Although sections of the taped materials are keyed to individual objectives, the materials are often cumulative. Therefore, you may find it useful to listen to all taped material for a unit, keeping a list of the objectives for the unit nearby, so you are constantly aware of the objective the tape was designed to teach. You should experiment until you find the method that best suits your study habits.

Regardless of the method of study you choose, you should always consult the Study Directory after you take Form B of the self-diagnostic test and before you request the end-of-unit test if the results indicate a need for additional study on an objective. Consulting the Study Directory at this time will enable you to: study only the materials for the objectives requiring additional study; use your study time more effectively and efficiently; "zero-in" on the material you really need to study; and minimize time spent reviewing material already learned.

SUPPLEMENTAL MATERIALS

The Supplemental Materials for this unit have been recorded on audio tapes 3, 4, and 5. The diagrams and tables on the following pages should be used in conjunction with these tapes.

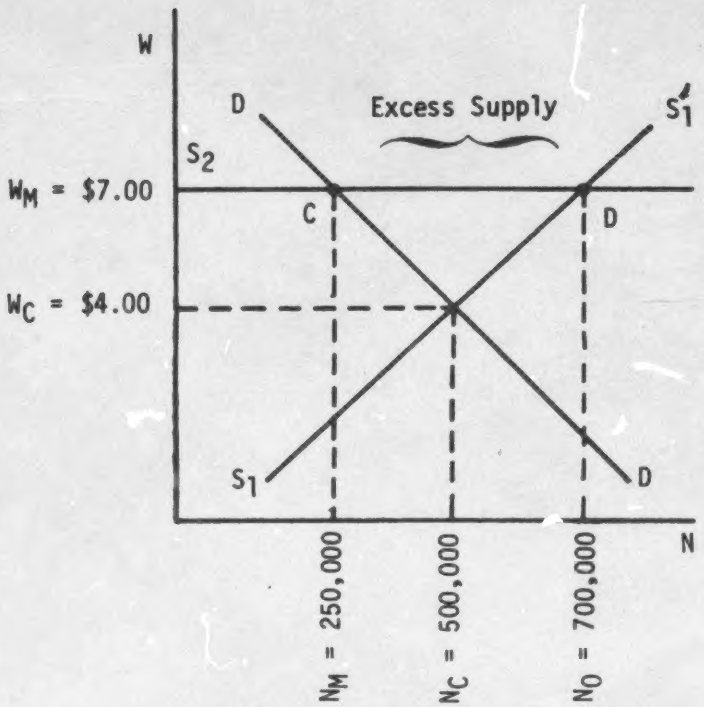


W = Wage Rate
    W_D = a Disequilibrium wage rate
    W_C = the competitive equilibrium

N = Employment
    N_D = a Disequilibrium employment level
    N_C = Employment at the Competitive equilibrium

Fig. 3-1. The autoworker market--nonunionized (Case 1)

(TO BE USED WITH SECTION 1 OF UNIT III TAPES)



W = Wages
  W_M = Union established Wage with a union goal of wage rate maximization
  W_C = Competitive Wage

N = Employment
  N_M = Number employed at Union Wage with a union goal of wage rate maximization
  N_C = Employment at the competitive wage
  N_O = Number of people offering themselves of employment at Union Wages

Fig. 3-2: The autoworker market when a union exists and bargains for--and gets--the maximum wage rate (Case 2)

(TO BE USED WITH SECTION 1 OF UNIT III TAPES)

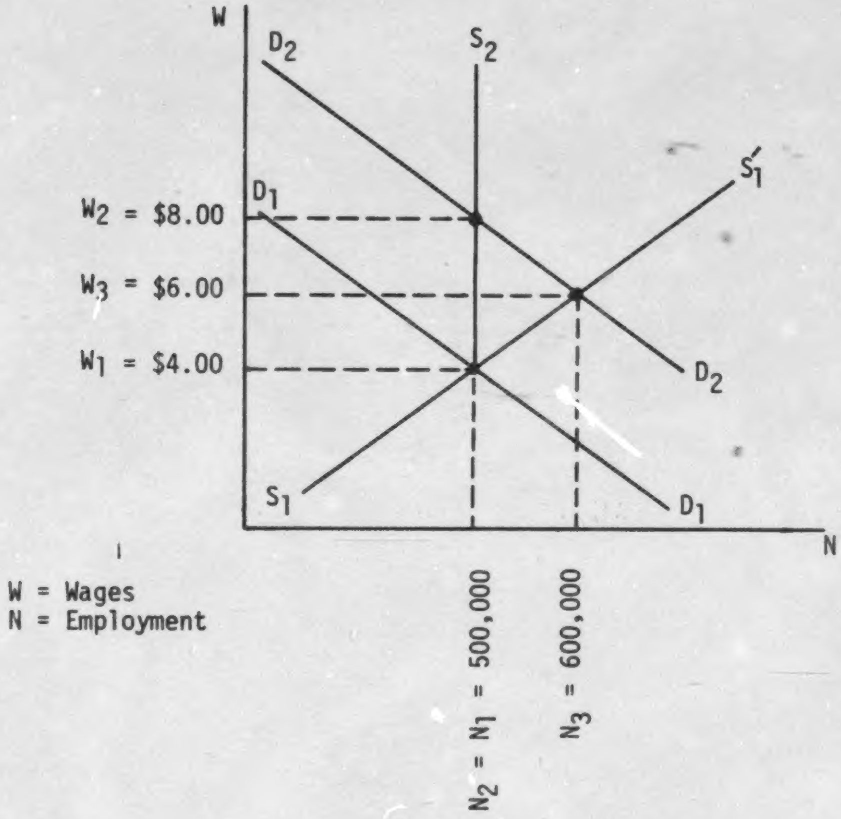
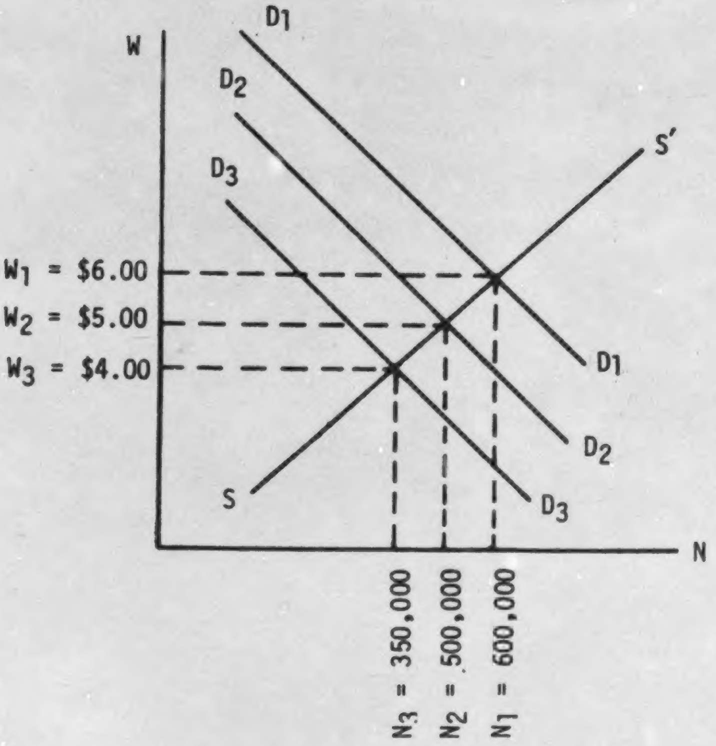


Fig. 3-3: The autoworker market with a union which successfully restricts entry (Case 3)

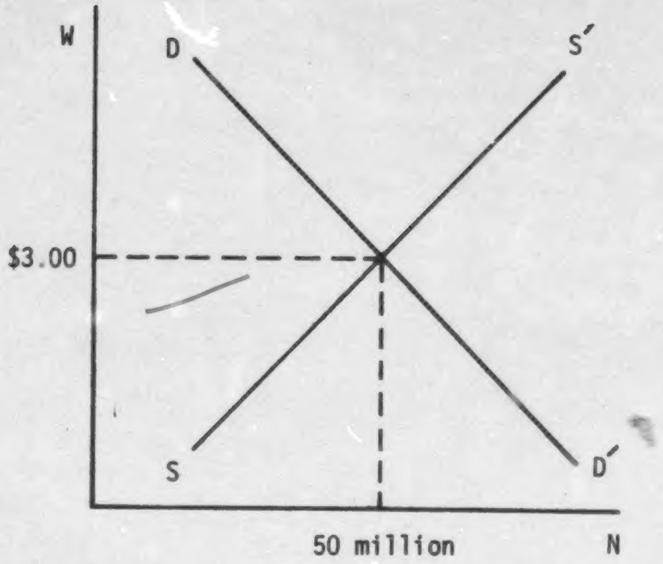
(TO BE USED WITH SECTION I OF UNIT III TAPES)



W = Wages
N = Employment

Fig. 3-4: A union faced with declining demand for its workers and which consequently has a goal of maximizing the employment of union members (Case 4)

(TO BE USED WITH SECTION I OF UNIT III TAPES)



W = Wage Rate
N = Employment in Constant Quality Units

Fig. 3-5. The general labor market

(TO BE USED WITH SECTION 1 OF UNIT III TAPES)

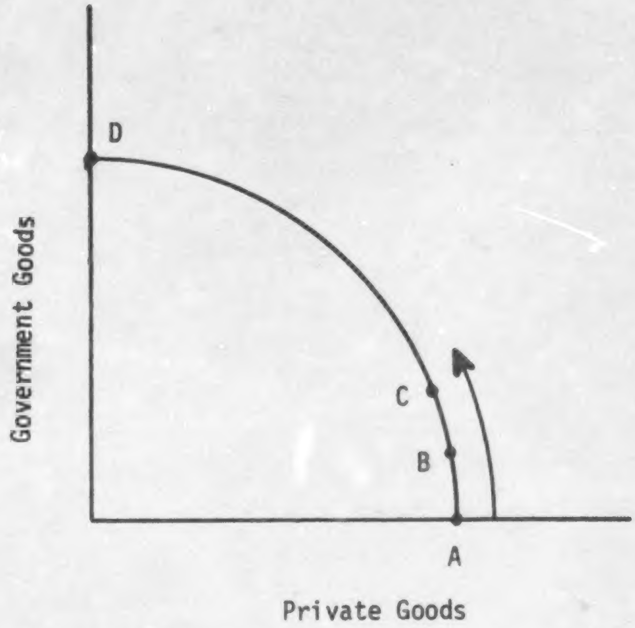


Fig. 3-6. Production possibilities: government and private goods

(TO BE USED WITH SECTION 2 OF UNIT III TAPES)

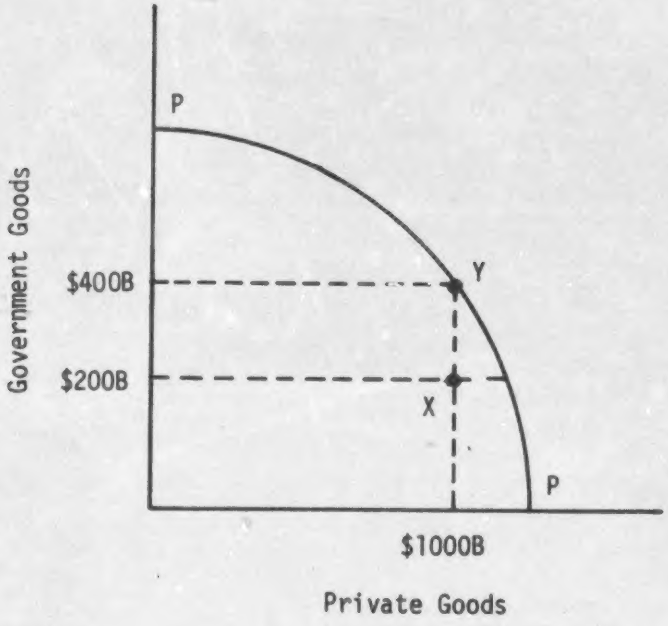


Fig. 3-7. Expansion of government activity when unemployment exists

(TO BE USED WITH SECTION 2 OF UNIT III TAPES)

TABLE 3-1: ALTERNATIVE METHODS OF OBTAINING THE FUNDS TO PROVIDE GOVERNMENT GOODS

Method	Degree of Use
1. Confiscation of Resources	Not Popular in U.S.
2. Taxation	Used Heavily in U.S.
3. Borrowing	Used Heavily in U.S.
4. Printing Money	Similar to a Tax on Holding Cash*

*Example: Tax on Cash Holdings U.S. Printing Money

Case 1: Consider an individual with $100 when the government taxes $10 away. He has $90 left.

Case 2: Consider a government which instead prints and spends enough money to increase the price index from 100 to 111.1

(TO BE USED WITH SECTION 2 OF UNIT III TAPES)

TABLE 3-2: TAXATION OF CASH HOLDINGS VS. INFLATION

	Original Cash Holdings	Price Index #	Tax	Real Purchasing Power Left*
CASE 1	\$100	100	\$10	\$90
CASE 2	\$100	111.11	0	\$90

*Real Purchasing Power or Remaining Cash = $\frac{\text{Cash - Tax}}{\text{Price Index \#}} \times 100$

Real Purchasing Power in Case 1 = $\frac{\$100 - \$10}{\$100} \times 100 = \$90$

Real Purchasing Power in Case 2 = $\frac{\$100 - \$0}{111.11} \times 100 = \$90$

(TO BE USED WITH SECTION 2 OF UNIT III TAPES)

TABLE 3-3: COMPARISON OF REGRESSIVE, PROPORTIONAL AND PROGRESSIVE TAXATION

	TAXABLE INCOME	MARGINAL TAX RATE	TOTAL TAXES PAID AT TOP INCOME BRACKET
A-Regressive Taxation	$ 0-5,000	50%	$ 2,500
	5-10,000	40	4,500
	10-25,000	30	9,000
	25-50,000	20	14,000
	50-100,000	10	19,000*
	Over $100,000	0	19,000*
	*On $100,000 and all higher incomes, total taxes would be $19,000.		
B-Proportional Taxation	**TAXABLE INCOME**	**MARGINAL TAX RATE**	**TOTAL TAXES PAID AT TOP INCOME BRACKET**
	$ 0-5,000	30%	$ 1,500
	5-10,000	30	3,000
	10-25,000	30	7,500
	25-50,000	30	15,000
	50-100,000	30	30,000
	Over $100,000	30	30,000 + 30% of income in excess of $100,000
C-Progressive Taxation	**TAXABLE INCOME**	**MARGINAL TAX RATE**	**TOTAL TAXES PAID AT TOP INCOME BRACKET**
	$ 0-5,000	0%	0
	5-10,000	10	500
	10-25,000	20	3,500
	25-50,000	30	11,000
	50-100,000	40	31,000
	Over $100,000	50	31,000 + 50% of income in excess of $100,000

(TO BE USED WITH SECTION 3 OF UNIT III TAPES)

TABLE 3-4: TOTAL TAXES IN THE U.S.

INCOME	TAX RATE
$ 0-2,000	45%
2-15,000	About 26%
Over 15,000	38%

(TO BE USED WITH SECTION 3 OF UNIT III TAPES)

Y = Income = \$5.00

C = Consumption = \$3.00

I = Investment = \$2.00

S = Savings = \$2.00

Equation 1: $Y = C + S$ or \$5.00 = \$3.00 + \$2.00

Equation 2: $Y = C + I$ or \$5.00 = \$3.00 + \$2.00

Equation 3: $S = I$* or \$2.00 = \$2.00

*Explanation of how Equation 3 was derived:

1) If Equation 1 states that $Y = C + S$ and Equation 2 states that $Y = C + I$, then

2) $C + S = C + I$, therefore

3) $S = I$; Rule: If two quantities are each equal to a third quantity, they must be equal to each other.

Example 3-1: Income, savings, consumption, and investment in a hypothetical economy - no government and no foreign trade

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)

Y = Income = \$6.00

C = Consumption = \$3.00

I = Investment = \$1.50

S = Savings = \$2.00

G = Government Spending = \$1.50

T = Taxes = \$1.00

Equation 4: $Y = C + S + T$ or $\$6.00 = \$3.00 + \$2.00 + \$1.00$

Equation 5: $Y = C + I + G$ or $\$6.00 = \$3.00 + \$1.50 + \$1.50$

Equation 6: $S + T = I + G^*$ or $\$2.00 + \$1.00 = \$1.50 + \$1.50$

*Explanation of how Equation 6 was derived:

1) If Equation 4 states that $Y = C + S + T$ and Equation 5 states that $Y = C + I + G$, then

2) $C + S + T = C + I + G$, therefore

3) $S + T = I + G$

Example 3-2: The private and government sectors combined: no foreign trade

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)

$$\text{MARGINAL PROPENSITY TO CONSUME (MPC)} = \frac{\text{The change in Consumption}}{\text{The change in Income}}$$

Income (dollars)	Consumption (dollars)	MPC[1,2]
0	2,000	---
1,000	2,800	
2,000	3,600	.80
5,000	6,000	
10,000	10,000	
20,000	18,000	
50,000	42,000	
100,000	82,000	

[1] Notice that normally the word marginal refers to a small change. This table and the following section have been constructed using large changes for illustrating purposes only.

[2] It should also be noted that there is no entry in the first space in the MPC column, since MPC is based on changes from one income level to another. Therefore, an entry cannot be made in the MPC column until a second income level has been reached.

Case 1: Income increases from 1,000 to 2,000
Consumption increases from 2,800 to 3,600

$$MPC = \frac{3{,}600 - 2{,}800}{2{,}000 - 1{,}000} = \frac{800}{1000} = .80$$

(Notice that this figure of .80 for MPC is actually the average MPC over the entire $1000 change in income.)

Case 2: Income increases from 2,000 to 5,000
Consumption increases from 3,600 to 6,000
MPC = _____

Case 3: Income increases from 5,000 to 10,000
Consumption increases from 6,000 to 10,000
MPC = _____

Case 4: Income increases from 10,000 to 20,000
Consumption increases from 10,000 to 18,000
MPC = _____

Case 5: Income increases from 20,000 to 50,000
Consumption increases from 18,000 to 42,000
MPC = _____

Case 6: Income increases from 50,000 to 100,000
Consumption increases from 42,000 to 82,000
MPC = _____

Case 7: Income increases from 0 to 1000
Consumption increases from 2000 to 2800
MPC = _____

Example 3-3: Derivation of consumption function for hypothetical household

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)

AVERAGE PROPENSITY TO CONSUME (APC) = $\frac{\text{Total Consumption}}{\text{Total Income}}$

Income (Dollars)	Consumption (Dollars)	APC*	MPC
0	2,000	---	---
1,000	2,800	2.80	.80
2,000	3,600		.80
5,000	6,000		.80
10,000	10,000		.80
20,000	18,000		.80
50,000	42,000		.80
100,000	82,000		.80

*APC is calculated for one specific income level, unlike MPC

Case 1: Consumption = 2,800, Income = 1,000

APC = $\frac{\text{Total Consumption}}{\text{Total Income}} = \frac{2,800}{1,000} = \frac{2,800}{1,000} = 2.80$

Case 2: Consumption = 3,600, Income = 2,000

APC = ______________________________

Case 3: Consumption = 6,000, Income = 5,000

APC = ______________________________

Case 4: Consumption = 10,000, Income = 10,000

APC = ______________________________

Case 5: Consumption = 18,000, Income = 20,000

APC = ______________________________

Case 6: Consumption = 42,000, Income = 50,000

APC = ______________________________

Case 7: Consumption = 82,000, Income = 100,000

APC = ______________________________

Example 3-4: Average propensity to consume (APC) for a household

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)

TABLE 3-5

A HYPOTHETICAL CONSUMPTION FUNCTION FOR A NATION: C = $200 BILLION + .80Y

Income (Billions of Dollars)	Consumption (Billions of Dollars)	MPC	APC
0	200		
100	280		
200	360		
500	600		
1000	1000	.80	1.00
1500	1400		
2000	1800		

$$\text{MPC of nation} = \frac{\text{the change in Consumption}}{\text{the change in Income}}$$

$$\text{MPC of nation} = \frac{1000 - 600}{1000 - 500} = \frac{400}{500} = .80$$

$$\text{APC of nation} = \frac{\text{Total Consumption}}{\text{Total Income}} \quad \frac{1000}{1000} = 1.00$$

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)

TABLE 3-6

SAVINGS AND CONSUMPTION FUNCTIONS FOR THE HYPOTHETICAL NATION INTRODUCED IN TABLE 3-5

Income* (Billions of Dollars)	Consumption (Billions of Dollars)	Saving (Billions of Dollars)	MPC	MPS	APC	APS
0	200	-200	---	---		
100	280	-180	.80	.20		
200	360	-160	.80	.20		
500	600	-100	.80	.20		
1000	1000	0	.80	.20		
1500[1]	1400	100	.80	.20	.93	.07
2000	1800	200	.80	.20		

*Recall, again, that ideally MPC and MPS would be calculated for small changes in income.

[1] Calculations for MPC are made for an income increase from 1,000 to 1,500

Step 1: $\text{MPC} = \frac{\text{The change in Consumption}}{\text{The change in Income}} = \frac{1400 - 1000}{1500 - 1000} = \frac{400}{500} = .80$

Step 2: $\text{MPS} = \frac{\text{The change in Savings}}{\text{The change in Income}} = \frac{100 - 0}{1500 - 1000} = \frac{100}{500} = .20$

Step 3: $\text{MPC} + \text{MPS} = 1,\ .80 + .20 = 1$

Step 4: $\text{APC} = \frac{\text{Total Consumption}}{\text{Total Income}} = \frac{1400}{1500} = .93$

Step 5: $\text{APS} = \frac{\text{Total Savings}}{\text{Total Income}} = \frac{100}{1500} = .07$

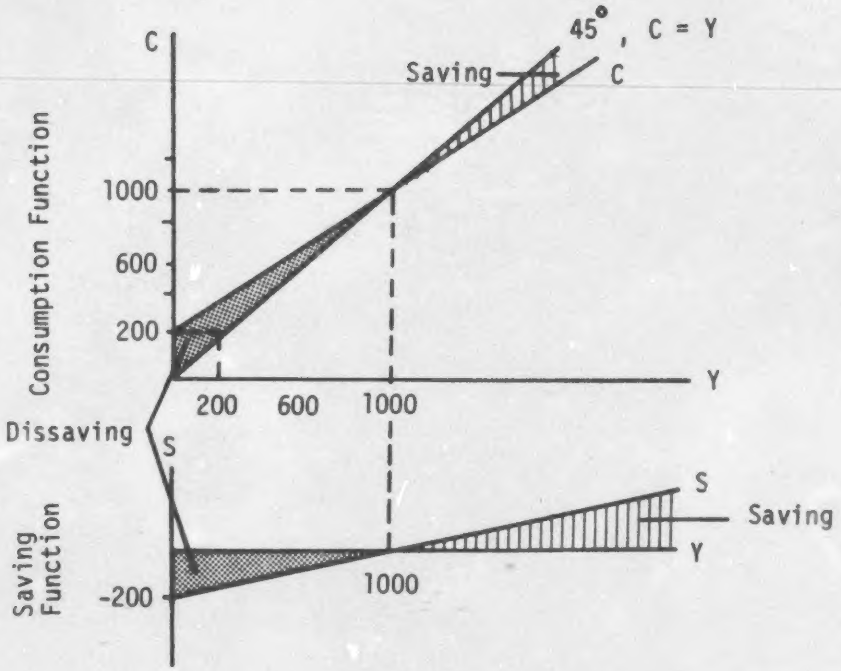
Step 6: $\text{APC} + \text{APS} = .93 + .07 = 1$

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)

TABLE 3-7: MPC, MPS, APC, AND APS ENTRIES FOR TABLE 3.5

Income (Billions of Dollars)	Consumption (Billions of Dollars)	Saving (Billions of Dollars)	MPC	MPS	APC	APS
0	200	-200	---	---	---	---
100	280	-180	.80	.20	2.80	1.80
200	360	-160	.80	.20	1.80	.80
500	600	-100	.80	.20	1.20	.20
1000	1000	0	.80	.20	1.00	0
1500	1400	100	.80	.20	.93	.07
2000	1800	200	.80	.20	.90	.10

(TO BE USED WITH SECTION 4 OF UNIT III TAPES)



(1) The slope of the consumption function = MPC = $\frac{\text{The change in consumption}}{\text{The change in income}}$

(2) The slope of the savings function = MPS = $\frac{\text{The change in savings}}{\text{The change in income}}$

(3) MPC + MPS = 1

(4) The slope of the consumption function + the slope of the savings function = 1

Fig. 3-8: Graphic illustration of the consumption and savings functions

(TO BE USED WITH SECTION 4 of UNIT III TAPES)

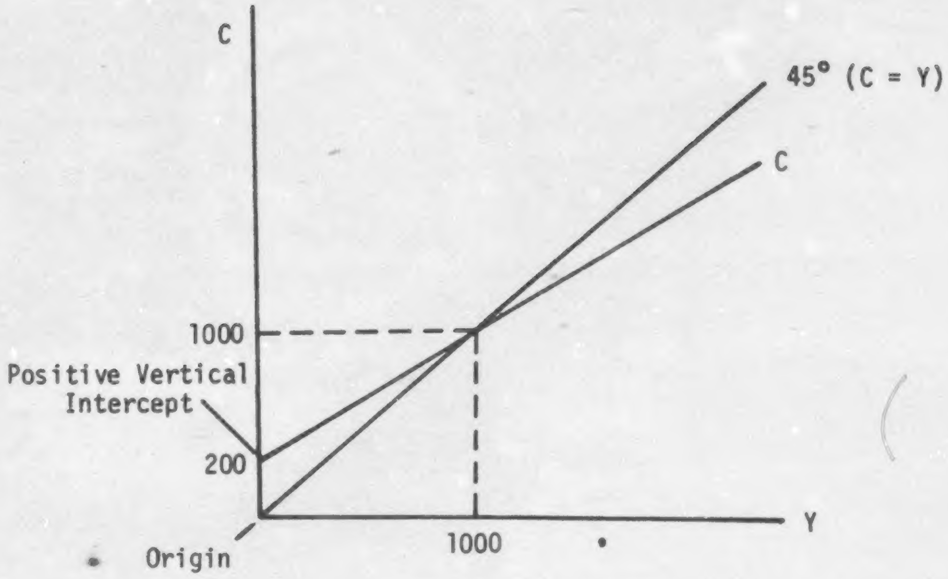


Fig. 3-9: The short run Keynesian Consumption Function, where in general $C = A + BY$, A = a positive number and B is within the limits $0 < B < 1.0$, and in this example $C = 200 + .8Y$

(TO BE USED WITH SECTION 5 OF UNIT III TAPES)

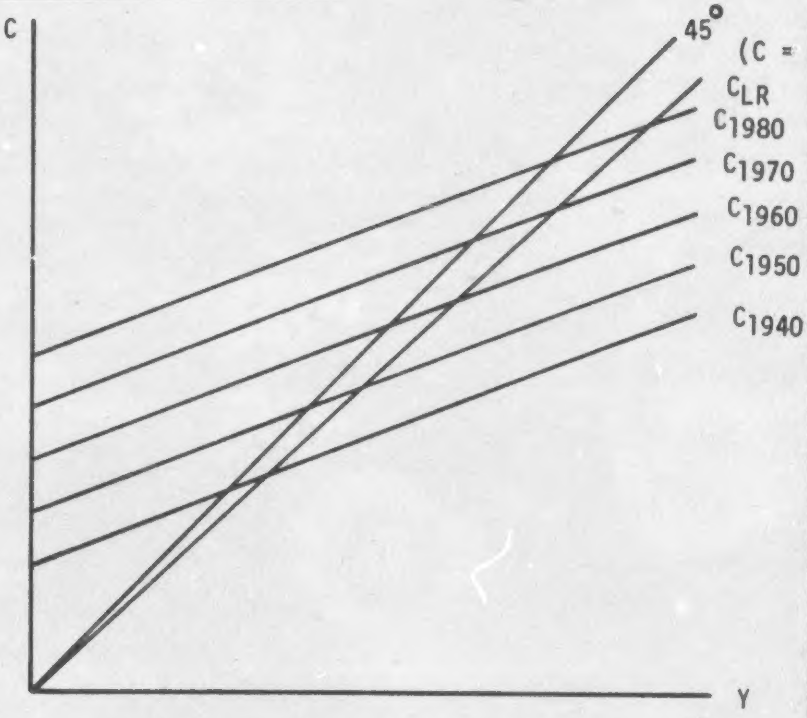


Fig. 3-10: The long-run Keynesian Consumption Function compared to several short-run Keynesian Consumption Functions.

(TO BE USED WITH SECTION 5 OF UNIT III TAPES)

TABLE 3-8: ALTERNATIVE THEORIES OF CONSUMPTION BEHAVIOR

THEORY	CHARACTERISTICS
1. The permanent-income hypothesis	a. People don't base Consumption on present Income. b. People do base Consumption on what they regard as their permanent income. c. This is like spending the return to all the assets they possess (recall that one's labor ability is an asset). d. Windfall gains or losses alter spending by relatively small amounts.
2. The Life-Cycle hypothesis	a. People plan their Consumption to smooth out annual differences in Consumption over their lifetime. b. People borrow when young → save in middle years → dissave when elderly.
3, The Keeping-up-with-the-Joneses hypothesis	a. People try to keep their consumption on a par with that of their neighbors. b. They only fall behind if the strain on their income becomes unbearable.

(TO BE USED WITH SECTION 5 OF UNIT III TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

1. Government intervention into any given market in a free enterprise economy would be justified on an efficiency basis when

   a. The goods in question are public goods
   b. Spillover effects exist in the market in question
   c. It appears that the industry in question is becoming monopolized
   d. All of the above
   e. Only (a) and (c) above

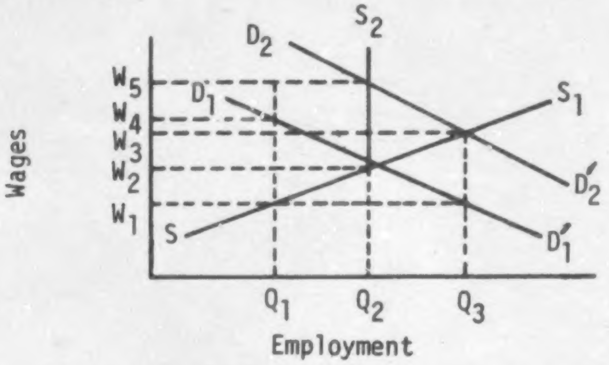
2. Increasingly, nonunion workers are working on construction jobs because

   a. The fringe benefits are higher for nonunion members
   b. Union workers would rather not work
   c. Construction workers would rather work at a wage such as $4.00 an hour than not work at a wage such as $8.00 an hour
   d. Union workers have become afraid to cross the picket lines set up by nonunion workers
   e. Both (a) and (d) above

3. Which of the following statements is (are) true?

   a. Unions are strongest among white collar workers
   b. The government has had very little to do with the growth of unionism in the last 50 years
   c. One of the key reasons unions can remain strong is that they are the sole bargaining agent for everyone within their jurisdiction
   d. The wages of union workers are always higher than they would be without the existence of the union
   e. All of the above except (a) are true statements

ANSWER QUESTIONS 4 TO 6 ON THE BASIS OF THE FOLLOWING INFORMATION.



4. If the labor market were unionized and the union successfully restricted the supply of labor to SS_2, given a demand for labor of D_1D_1', the equilibrium wage-employment combination would be

   a. W_1 and Q_1
   b. W_4 and Q_1
   c. W_2 and Q_2
   d. W_5 and Q_2
   e. W_3 and Q_3

5. If the union in Question 4 above collapsed and the labor market became competitive,

   a. Wages and employment would remain unchanged
   b. Wages and employment would fall
   c. Wages and employment would rise
   d. Wages would fall and employment would rise
   e. Wages would rise and employment would fall

6. If the labor market were unionized and the union successfully restricted the labor supply to SS_2 while demand was D_2D_2', the unionized market equilibrium would be

   a. W_5 and Q_2
   b. W_3 and Q_3
   c. W_2 and Q_2
   d. W_5 and Q_1
   e. W_4 and Q_1

7. Which of the following best reflects the ability-to-pay philosophy of taxation?

   a. An excise tax on coffee
   b. A sales tax on food
   c. A progressive income tax
   d. A tax on residential property
   e. A tax on unemployment compensation checks

8. If there is unemployment present in the economy,

   a. Increased government goods output will still require equal reduction in private goods output
   b. Increased federal spending will make the unemployment even worse by reducing private spending even further
   c. The government may be able to increase its output without causing private production to decrease
   d. The federal government may be able to increase its spending without causing inflation
   e. Both (c) and (d) above

9. Which of the following illustrates the benefits principle of taxation?

   a. Property taxes
   b. Excise taxes on telephone conversations
   c. Sales taxes on clothes
   d. Sales taxes on beer
   e. None of the above

10. Public goods are usually not sold in the private market because

    a. Not enough people are public spirited
    b. They are almost always too expensive
    c. They are of such a nature that if one supplier provides them to one buyer, they are automatically made available to those who haven't paid anything; it is therefore unprofitable to produce them
    d. All of the above
    e. None of the above

11. As of 1970, the social security tax was:

    a. Regressive because it applied approximately to only the first $11,000 earned and then became zero
    b. Proportional because all people pay the same percentage of their income
    c. A guaranteed retirement plan for which the exact benefits are known in advance
    d. Eventually paid back to each individual or his estate in amounts identical to those paid into the fund plus interest
    e. None of the above

12. According to Keynesian economics the most important determinant of consumer spending is the

    a. Level of income
    b. Stock of liquid assets
    c. Stock of durable goods on hand
    d. Level of consumer indebtedness
    e. None of the above

13. In a simple Keynesian model with no government sector or no foreign trade

    a. Savings equal consumption minus investment
    b. Investment equals savings plus income
    c. Consumption equals income plus investment
    d. Savings plus investment equals consumption
    e. None of the above

14. If the 1974 short run consumption function were used to predict consumption for 1984:

    a. The forecast would be inaccurate because George Orwell said so
    b. The forecast would probably be accurate
    c. Forecasted consumption would probably be too high
    d. Forecasted consumption would probably be too low
    e. None of the above

15. In a simple Keynesian model with no government and no foreign trade, savings must equal investment:

    a. By definition
    b. Because simple Keynesian models are unrealistic and of very limited usefulness
    c. Because the marginal propensity to save plus the marginal propensity to invest equals one
    d. Because investment = consumption minus income, and savings equals income minus investment
    e. None of the above

16. A general sales tax is:

    a. Progressive because it applies to luxury products as well as necessities
    b. Progressive because wealthy people spend more than poor people
    c. Regressive because wealthy people spend a smaller percentage of their total income on taxed commodities
    d. Regressive because more money is collected from a poor man than from a rich one
    e. Proportional because everybody pays the same tax percentage on each purchase

17. Collective goods are goods supplied to

    a. All people, whether they pay for them or not
    b. All taxpayers
    c. Welfare recipients
    d. People who buy in groups
    e. People who consume in cooperatives

18. Which of the following would likely cause investment to decrease?

    a. Technological progress
    b. An increase in the birth rate
    c. An increase in the interest rate
    d. All of the above
    e. Only (b) and (c) above

19. A constant marginal propensity to save means that

    a. The absolute amount saved is constant for every income level
    b. The rich man is saving a smaller percentage of his income than the poor man
    c. At every income level, the percentage of income saved is constant
    d. The same percentage of any increment to income will be saved at all income levels
    e. There is no break-even point, that is, there is always some positive saving

20. When a family's income is low and its consumption is greater than its income:

    a. The MPC must be increasing
    b. The MPC equals the ratio of total consumption expenditure to total income
    c. The MPC must be equal to 1
    d. The MPC must be greater than 1
    e. The consumption schedule lies above the 45-degree line

21. The MPC can be defined as that fraction of a:

    a. Given total income which is consumed
    b. Given total income which is not consumed
    c. Change in income which is spent on consumption goods
    d. Change in income which is not spent
    e. None of the above

22. For all levels of income which lie below the point of intersection of the 45-degree line and the consumption schedule, the APC is:

    a. Less than 100%
    b. Equal to 100%
    c. Equal to the MPC
    d. Less than the APS
    e. Greater than 100%

23. A straight line consumption schedule means that the marginal propensity to consume:

    a. Is constant for all levels of income
    b. Is one at all income levels
    c. Decreases as income increases
    d. Increases as income increases
    e. None of the above

24. The property tax has been labeled discriminatory because

    a. Real property is not a very good measure of wealth in this age when large amounts of intangible property exist
    b. When it is used to finance schools, the amount of money available per pupil varies greatly from area to area, depending on the size of the property tax base
    c. When it is used to finance schools, it results in less money being spent on the education of ghetto students than on suburban students
    d. All of the above
    e. Only (b) and (c) above

ANSWER QUESTIONS 25 AND 26 ON THE BASIS OF THE FOLLOWING INCOME TAX SCHEDULE.

Income	Marginal Tax Rate
0 - 5,000	0
5,000 - 10,000	20%
10,000 - 25,000	30%
25,000 - 50,000	40%
50,000 up	50%

25. This tax schedule would be

    a. Progressive
    b. Regressive
    c. Proportional
    d. Almost identical with the present U.S. federal income tax schedule
    e. None of the above

26. If an individual earned $60,000, under this tax schedule he would pay taxes of:

    a. $5,000
    b. $30,000
    c. $25,000
    d. $20,500
    e. None of the above

27. If the sacrifice theory of taxation is correct, and the marginal utility of money decreases as income rises

    a. Regressive taxation would be most appropriate
    b. Progressive taxation would be most appropriate
    c. Proportional taxation would be most appropriate
    d. The permanent income hypothesis would be most appropriate
    e. None of the above

28. Many Keynesian economists feel that the keeping-up-with-the-Joneses hypothesis of consumption behavior could apply to some households

    a. But could not apply to the economy as a whole in the long run
    b. And should probably replace the Keynesian consumption function in more sophisticated economic models
    c. But really is identical with the Permanent Income Hypothesis
    d. And consequently justifies regressive taxation
    e. None of the above

29. Under which of the following theories of consumption behavior is the MPC constant while the APC declines as income rises?

    a. Jevons's Sunspot Theory
    b. The Keynesian Consumption Function
    c. The Permanent Income Hypothesis
    d. The Life-Cycle Hypothesis
    e. The Keeping-Up-With-the-Joneses Hypothesis

30. The Permanent Income Hypothesis is a theory

   a. Of investment behavior
   b. Which pertains to the particular products a given consumer might buy
   c. Which states that people base their spending on consumer goods entirely on their present incomes
   d. Which states that people base their spending on what their neighbors spend
   e. None of the above

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM B

1. d
2. c
3. c
4. c
5. a
6. a
7. c
8. e
9. e
10. c
11. a
12. a
13. e
14. d
15. a
16. c
17. a
18. c
19. d
20. e
21. c
22. e
23. a
24. d
25. a
26. d
27. b
28. a
29. b
30. e

DO NOT REQUEST END-OF-UNIT TEST UNTIL YOU CAN ANSWER ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC TEST WITHOUT ANY DIFFICULTY.

IV

INTRODUCTION
TO
THE KEYNESIAN THEORY
OF
NATIONAL INCOME
DETERMINATION

OVERVIEW

Upon completion of this unit you should have an understanding of the history and nature of the business cycle in the U.S., of the theoretical analysis of the business cycle, and of the Keynesian economics which attempts to mitigate the business cycle. You should also be able to comprehend economic concepts behind efforts to combat the business cycle and be able to apply and solve simple Keynesian models.

The Federal government now has a major role to play in controlling the U.S. economy. At the end of this unit, you should be able to understand this role. In addition, you should be beginning to question the ability of Keynesian economics to handle the problems facing the U.S. in the 1970's. Economists are now beginning to feel rather uncertain on this topic.

PERFORMANCE OBJECTIVES

1. Identify phases of a typical business cycle.

2. Identify correct summary statements about the history of the business cycle and unemployment in the U.S.

3. Given characteristics of a business cycle, classify it according to the relevant business cycle theory and critique several business cycle theories with respect to relevant merits or content.

4. Given information about marginal propensities to consume and invest, etc., calculate both the simple and the complex Keynesian multiplier, as well as any relevant tax multipliers.

5. Determine each of the following in a simple Keynesian system:

    a. Equilibrium income level
    b. Level of autonomous spending
    c. Consumption and investment levels
    d. Methods of contracting or expanding economic activity
    e. The most appropriate equilibrium situation for a given economy
    f. The most appropriate fiscal policy for a given situation, and
    h. The relevant Keynesian multiplier

6. Identify and evaluate methods of fiscal "fine tuning."

7. Demonstrate an understanding of relationships among the federal budget, full employment, and aggregate expenditures by:

    a. Evaluating the federal budget as an indicator of the impact of fiscal policy on the economy
    b. Predicting the relationships between actual federal budget deficits or surpluses and full employment deficits or surpluses
    c. Identifying factors which lead to an underemploymen gap

8. Demonstrate an understanding of savings-investment models by:

   a. Identifying requirements for achieving a stable investment-savings equilibrium
   b. Predicting the effect of changes in investment when the economy is at equilibrium
   c. Predicting the result of shifts in investment and savings functions
   d. Predicting the effect when investment is stimulated by technological change or other growth inducing or retarding changes
   e. Predicting the result of increased spending on national income and employment
   f. Predicting the result when planned or desired saving is greater or smaller than planned or desired investment
   g. Identifying factors which cause income and employment levels to fluctuate
   h. Identifying factors which result in an equilibrium or disequilibrium in the economy
   i. Describing the equilibrium GNP in a no-government economy in terms of Keynesian cross-diagrams, savings and investment schedules, and intended and actual investment and savings
   j. Predicting the result when potential GNP exceeds or is less than actual GNP, and
   k. Interpreting the "Paradox of Thrift" phenomenon

SELF-DIAGNOSTIC TEST FORM A

1. Which of the following is NOT a phase of the business cycle?

   a. Inflection point
   b. Contraction
   c. Peak
   d. Trough
   e. None of the above--they are all phases of the business cycle

2. Which of the following theories of the business cycle focused on the sunspot cycle as a basic component of the business cycle?

   a. Jevons's theory
   b. Marx's theory
   c. The solar holocaust theory
   d. The psychological reaction theory
   e. None of the above

3. The longest period of continued prosperity in the U.S. history occurred during:

   a. The 1960's decade
   b. The 1896-1905 merger movement
   c. During and after World War I
   d. During and after the Civil War
   e. During and after World War II

4. Unemployment in the United States reached its all time recorded low:

   a. During the Vietnam War
   b. During World War II
   c. Shortly after the end of the Vietnam War
   d. During early 1929
   e. During the 1896-1905 merger movement

5. Marx's business cycle theory:

   a. Is presently holding true for the U.S.
   b. May have been an accurate description of the workings of capitalism as capitalism existed when Marx formulated the theory
   c. Could conceivably fit U.S. experience prior to World War II
   d. Both (b) and (c) above
   e. None of the above

ANSWER QUESTIONS 6 AND 7 ON THE BASIS OF THE FOLLOWING INFORMATION:

> The marginal propensity to consume is 0.8
> The marginal propensity to invest is 0.1

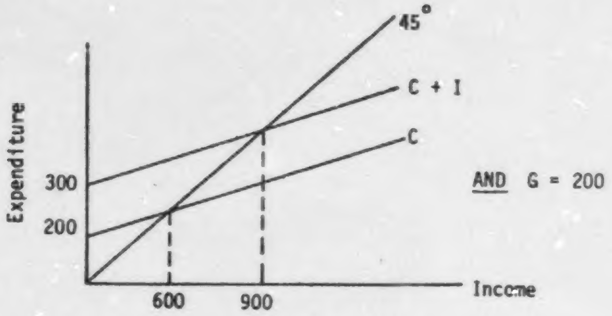
6. The simple Keynesian multiplier will be:

   a. 0.8
   b. 1.25
   c. 5
   d. 8
   e. 10

7. The complex Keynesian multiplier will be:

   a. 0.9
   b. 1.11
   c. 6.67
   d. 9
   e. 10

ANSWER QUESTIONS 8 AND 9 ON THE BASIS OF THE FOLLOWING INFORMATION:



8. Equilibrium income in this model would be:

   a. 600
   b. 1500
   c. 900
   d. 2400
   e. None of the above

9. If the government increased its spending to 300, the new equilibrium income would be:

   a. 1200
   b. 2700
   c. 900
   d. 1800
   e. None of the above

10. In order for a stable equilibrium to be reached, the:

    a. Savings function must be identical to the investment function
    b. Savings function must be steeper than the investment function
    c. Investment function must be steeper than the savings function
    d. Savings function must be steeper than the consumption function
    e. Consumption function must be steeper than the savings function

11. If investment increases when the economy is at equilibrium:

    a. Income will rise, restoring equality of planned savings and planned investment
    b. People will be unwilling to increase their savings so income and investment will fall back to the original, stable equilibrium
    c. Consumption will decrease, returning the economy to equilibrium
    d. The economy will be put into perpetual disequilibrium
    e. None of the above

12. The economy is at an equilibrium position whenever:

    a. There is full employment
    b. Planned savings equals planned investment
    c. There is no inflation
    d. All of the above
    e. Only (a) and (c)

13. Which of the following can initiate a disequilibrium situation?

    a. A political scandal
    b. A new oil field discovery
    c. Assassination of a president
    d. All of the above
    e. Only (a) and (c)

14. When actual GNP exceeds potential GNP:

    a. Machines are being used at more than their optimal capacities
    b. The level of employment is above the optimal level
    c. There are, usually, if not always, rising prices
    d. All of the above
    e. None of the above--actual GNP cannot exceed potential GNP

15. One way for an individual to acquire wealth is for him to save; when the nation increases its saving:

    a. National income will rise
    b. National income will fall
    c. Employment will increase
    d. Both (a) and (c) above
    e. None of the above

16. An investment tax credit will only be effective if:

    a. Businessmen don't know about it
    b. The government makes sure businessmen understand how they can use it
    c. Foreigners are prevented from copying U.S. fiscal policy
    d. Foreigners are persuaded to copy U.S. fiscal policy
    e. None of the above

17. The job development credit:

    a. Was first thought of by President Nixon and his economic advisors
    b. Applies to all capital
    c. Applies to only U.S.-built capital (and only partly to short-lived capital that is U.S. built)
    d. Applies to all U.S.-built capital equally regardless of the service life of this capital
    e. None of the above

18. The actual federal government budget:

    a. Indicates whether government fiscal policy is expansionary or contractionary
    b. Doesn't ever indicate anything
    c. Is a poor indicator of the impact of government fiscal policy on the economy
    d. Is the difference between government spending and personal income tax collections
    e. None of the above

ANSWER QUESTIONS 19 AND 20 ON THE BASIS OF THE FOLLOWING INFORMATION

$$\boxed{\begin{array}{l} C = 300 + .8Y \\ I = 100 \\ G = T = 0 \end{array}}$$

19. Equilibrium income will be:

    a. 1200
    b. 1500
    c. 375
    d. 2400
    e. None of the above

20. At the equilibrium income, consumption will be:

    a. 1200
    b. 440
    c. 1920
    d. 2120
    e. None of the above

ANSWER QUESTIONS 21 TO 25 ON THE BASIS OF THE FOLLOWING INFORMATION ABOUT A WORLD IN WHICH THE BALANCED BUDGET MULTIPLIER IS ONE.

$$\boxed{\begin{array}{l} C = 400 + .6Y \\ I = 200 + .2Y \\ G = 400 \\ T = 200 \end{array}}$$

21. Equilibrium income in this model is:

    a. 2000
    b. 4000
    c. 4200
    d. 6000
    e. None of the above

22. The government surplus or deficit is:

    a. A surplus of 200
    b. A deficit of 200
    c. A deficit of 125
    d. A surplus of 425
    e. There is insufficient infermation given to answer this question so none of the above is correct

23. The relevant Keynesian multiplier in this multiplier is:

    a. 0.6
    b. 2.5
    c. 5.0
    d. 6.0
    e. 8.0

24. If taxes were fixed by law at 200 and the equilibrium income were 500 below full employment, what fiscal policy action could the government take to restore full employment?

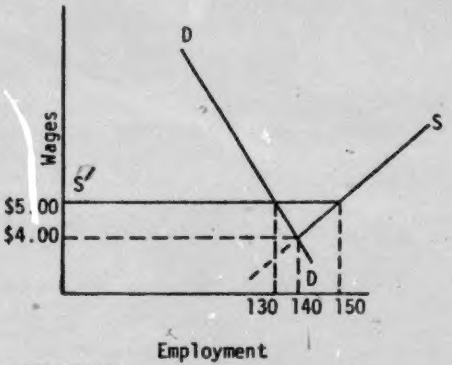
    a. Cut taxes by 100
    b. Cut taxes by 125
    c. Increase government spending by 100
    d. Increase government spending by 200
    e. None of the above

25. Should the government restore full employment?

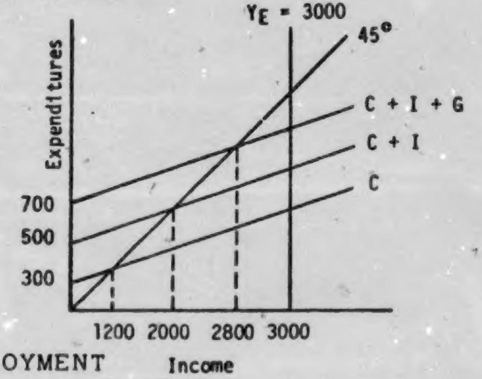
    a. Yes, because unemployment is always bad
    b. No, because unemployment helps build moral character
    c. No, because increased government spending or tax cuts always cause inflation
    d. Both (b) and (c) above
    e. There is insufficient information given to answer this question so none of the above is correct

ANSWER QUESTIONS 26-30 ON THE BASIS OF THE FOLLOWING INFORMATION

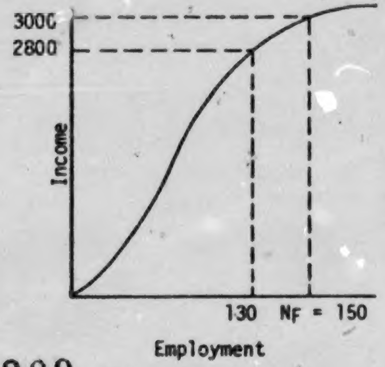
WAGES-EMPLOYMENT



EXPENDITURES-INCOME



INCOME-EMPLOYMENT



26. By how much would the government have to change its spending to restore full employment?

    a. None--the economy is already at full employment
    b. By an increase of 50
    c. An increase of 200
    d. A decrease of 200
    e. None of the above

27. The Keynesian multiplier in this model is:

    a. 2.0
    b. 4.0
    c. 5.0
    d. 6.0
    e. None of the above

28. If the government somehow removed the inflexibility from the labor market, what would the new full-employment level of employment be?

    a. 130
    b. 140
    c. 150
    d. 155.8
    e. None of the above

29. If income in this model were 3000, consumption would be:

    a. 300
    b. 750
    c. 2250
    d. 2550
    e. None of the above

30. If income were 3000, employment would be

    a. 130
    b. 140
    c. 150
    d. 750
    e. None of the above

CHECK YOUR ANSWERS BY TURNING TO ANSWER KEY FOR FORM A OF SELF-DIAGNOSTIC TESTS

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. a
2. a
3. a
4. b
5. d
6. c
7. e
8. b
9. d
10. b
11. a
12. b
13. d
14. d
15. b
16. e
17. c
18. c
19. e
20. e
21. c
22. b
23. c
24. c
25. e
26. b
27. b
28. b
29. d
30. c

TURN TO THE STUDY DIRECTORY

STUDY DIRECTORY

Textbook: Roger Miller, Economics Today. Canfield Press, 1973. Chapters 4 (except pp. 81-83), 5, 6, and 8; Issues III, IV, V, and VI.

Objec-tives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide	Tape	
				Number	Section
1	1	139-141	196-197	6	1
2	3,4	141-150 152-157	196-197	6	1
3	2,5	141-150	196-197	6	1
4	6,7	158-169* 175-185	198	6	2
			199-205	7	3
			206-212	8	4
5	8,9 19-30	158-169* 175-185 190-204	198	6	2
			199-205	7	3
			206-212	8	4
			213	8	5
6	16,17	207-211	None	None	None
7	18	190-204	206-212	8	4
			213	8	5
8	10-15	158-169* 179-181	215-217	8	6

*Read previously for Unit III; should be reviewed for this objective.

SPECIFIC STUDY SUGGESTIONS

By now you should be familiar with the procedure for studying each unit. If you're not sure of this procedure or if you've forgotten it since you studied Units I, II, and III, read the "Instructions" section of the Study Guide again.

Audiotapes 6, 7, and 8 are to be used for Unit IV.

You should pay particular attention to Performance Objectives 5 and 8. If you have not already read the objectives for this unit you should do so now. You should notice that Objectives 5 and 8 cover many skills which you should have at the end of this unit. If you'll look at the Study Directory for this unit, you'll notice that there are many test items over these objectives. When you are studying the material for these objectives, you should consult these objectives frequently to make sure you are learning what is required in the objectives.

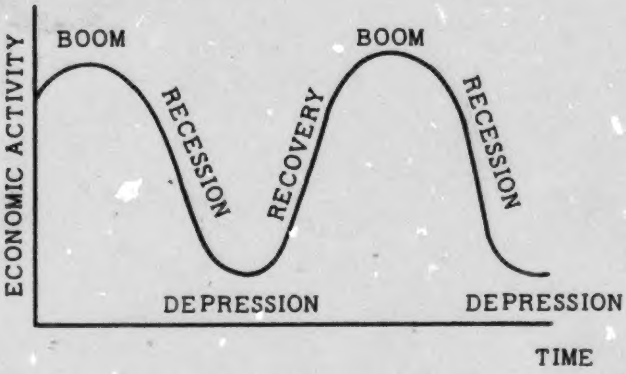
Keeping the unit objectives in a place where they can be consulted frequently is a good practice not only for Objectives 5 and 8 but for all objectives.

Remember that this course was constructed so that you will be tested over the objectives and only the information or skills in these objectives. Using these objectives as you study will help you "zero-in" on what you need to learn in each unit and prevent you from spending a lot of time on material not connected with the objectives of the course. Since the course was constructed around specific objectives; that is, skills which you should acquire in each unit, if you can do what is specified in each objective, you should do well on the end-of-unit test and learn the most important information the course has to offer.

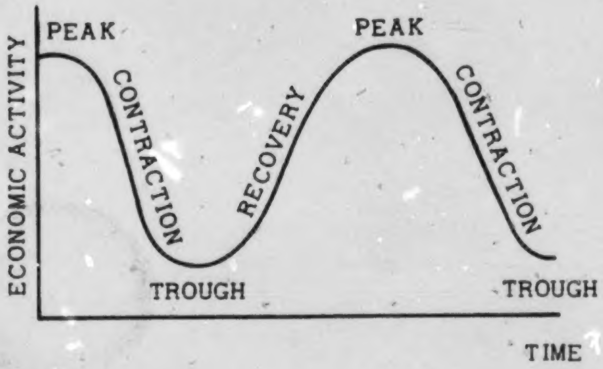
SUPPLEMENTAL MATERIALS

As in preceding units, supplemental materials for this unit have been recorded on audio tape, with the diagrams in the Study Guide to be used with the tapes. The tape will give you instructions as to which diagram, table, etc., is to be used with each section of the tape. All diagrams, charts, etc., are captioned at the bottom of the page, so they're easily identifiable.

Usually the diagrams and charts are placed in the Unit Study Guide in the order in which they are needed on the tape, so they can be found quickly. Whenever you're directed to locate information in the Unit Study Guide to use while listening to a section of a tape, the tape will pause long enough for you to locate the information you need.



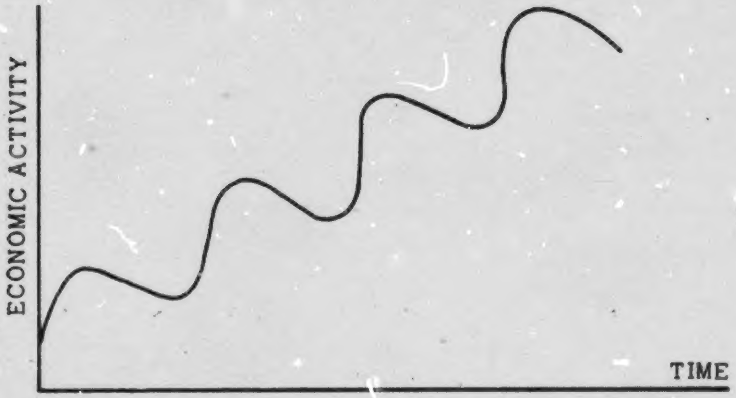
Part A: The business cycle in commonly used terms



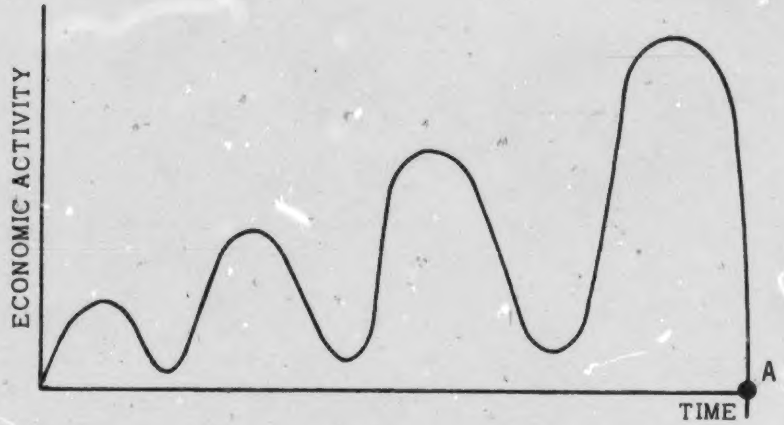
Part B: The business cycle in less politically charged terms

Fig. 4-1: The phases of the business cycle

(TO BE USED WITH SECTION 1 OF UNIT IV TAPES)



Part A: Approximation of U.S. experience.



Part B: The prediction made by Marx: an exploding cycle

Fig. 4-2: The historical business cycle

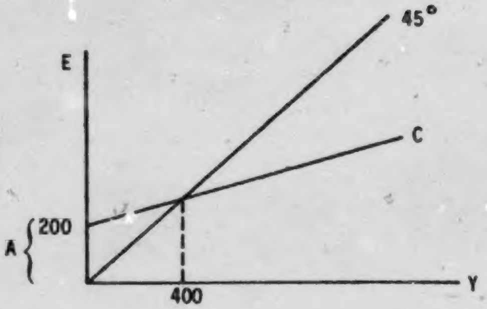
(TO BE USED WITH SECTION 1 OF UNIT IV TAPES)

TABLE 4-1

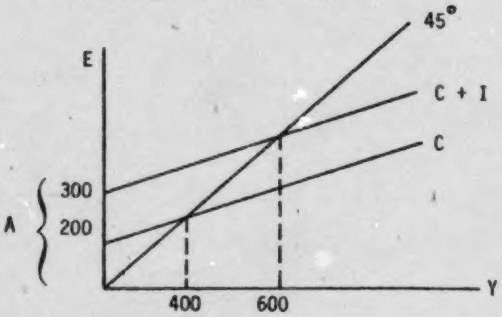
THE MAJOR ELEMENTS IN A SIMPLE KEYNESIAN SYSTEM

ELEMENT	SYMBOL	MEANING
1. Investment	I	Any form of spending which increases the capital stock of the nation or replaces part of this capital stock which has worn out; inventories are considered capital stock and therefore investment
2. Consumption or Consumption Spending	C	Spending by households on consumer goods and services
3. Government Spending	G	Spending by any government agency; note that we often assume only the federal government exists (for simplicity).
4. Aggregate Expenditures	E	Total of all spending; usually consists of consumption plus investment plus government spending
5. Autonomous or Exogenous Spending	A	Spending which is independent of any variable in the economic system currently under consideration
6. Income	Y	Total earnings of all households in the system
a. Equilibrium Income	Y_E	Income at which system will settle unless disturbed by an outside force
b. Full employment Income	Y_F	Level of income necessary to fully utilize all economic resources in the system; at Y_F, an economic system can reach its production possibilities frontier. For simplicity, we often focus on employment of labor.
7. Employment	N	Level of utilization of the nation's labor force
a. Equilibrium Employment	N_E	Level of employment which the economic system will generate by itself
b. Full Employment	N_F	Level of employment necessary to fully utilize the available labor resources; full employment, economically speaking, equals the available labor force minus frictional unemployment.
8. Unemployment	-	Lack of utilization of the full labor force
a. Frictional unemployment	-	Normal or expected unemployment
b. Cyclical unemployment	-	Unemployment due to the business cycle
c. Technological or Structural unemployment	-	Unemployment due to technological and/or structural change
9. Savings	S	Amount of income not spent on consumer goods or taxed away by government
10. Taxes	T	The taxes collected by government

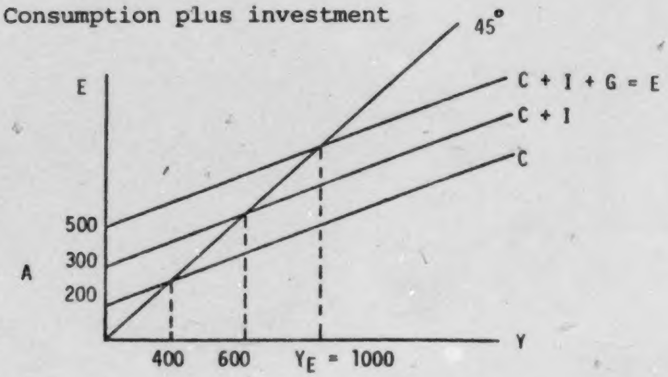
(TO BE USED WITH SECTION 2 OF UNIT IV TAPES)



Part A: The consumption function



Part B: Consumption plus investment



Part C: Consumption plus investment plus government spending: a simple Keynesian model

Fig. 4-3: Simple Keynesian cross diagrams

(TO BE USED WITH SECTION 3 OF UNIT IV TAPES)

TABLE 4-2

A SIMPLE KEYNESIAN ECONOMIC SYSTEM: TWO METHODS OF DETERMINING THE SIMPLE KEYNESIAN MULTIPLIER & EQUILIBRIUM INCOME

PART A

Forms of Spending (Billions of Dollars)	Definition
Consumption	C = 200* + .5Y
Investment	I = Autonomous = 100
Government	G = Autonomous = 200

Determination of the Simple Keynesian Multiplier:

Method 1: $k = \frac{1}{1 - MPC} = \frac{1}{1 - .5} = \frac{1}{.5} = 2$

Determination of Equilibrium Income:

$$Y_E = kA \longrightarrow A^* = I + G + \text{Autonomous } C$$

$$\begin{array}{ll} Y_E = 2 \times 500 & \\ & \longleftarrow \left\{\begin{array}{l} A = 100 + 200 + 200 = 500 \\ k = \frac{1}{1 - MPC} = \frac{1}{.5} = 2 \end{array}\right. \\ Y_E = 1000 & \end{array}$$

*Autonomous (exogenous) spending is any spending which is not dependent on any variable in the model. For our purposes, this means any element of the model that is simply equal to a number of dollars. Thus, in the above table, autonomous C = 200, autonomous I = 100; and autonomous G = 200.

(TO BE USED WITH SECTION 3 OF UNIT IV TAPES)

TABLE 4-2--Continued

PART B

Forms of Spending (Billions of Dollars)	Definition
Consumption	C = 200* + .5Y
Investment	I = Autonomous = 100
Government	G = Autonomous = 200

Determination of the Simple Keynesian Multiplier

Method 2: $k = \frac{1}{MPS} = \frac{1}{.5} = 2$

Determination of Equilibrium Income

$Y_E = kA$

$Y_E = 2 \times 500$

$Y_E = 1000$

$A = I + G + \text{Autonomous } C^{**}$

$A = 100 + 200 + 200 = 500$

$k = \frac{1}{MPS} = \frac{1}{.5} = 2$

---

*Autonomous (exogenous) spending is any spending which is not dependent on any variable in the model. For our purposes, this means any element of the model that is simply equal to a number of dollars. Thus, autonomous C = 200; autonomous I = 100; and autonomous G = 200.

**Autonomous consumption is the constant term in the consumption function (i.e., its vertical intercept). In this model, then, it is $200.

(TO BE USED WITH SECTION 3 of UNIT IV TAPES)

TABLE 4-3

THE COMPLEX KEYNESIAN MULTIPLIER

Spending	Definition
Consumption	$C = 100 + .6Y$
Investment	$I = 100 + .2Y$
Government	$G = \text{Autonomous} = 200$

Multiplier	Calculation
Complex Keynesian*	$k_C = \frac{1}{1 - MPE} = \frac{1}{1 - .8} = \frac{1}{.2} = 5$
Simple Keynesian**	$k = \frac{1}{1 - MPC} = \frac{1}{1 - .6} = \frac{1}{.4} = 2.5$

Application: $Y_E = k_C A$

$Y_E = 5 \times 400$

$Y_E = 2000$

*To calculate the Complex Keynesian Multiplier in this manner, we must make one of the two assumptions: (1) taxes equal zero, or (2) the balanced budget multiplier equals zero. These assumptions will be discussed later.

**This multiplier is not a useful multiplier in this model. It is included here only to show the similarity of the two multipliers.

(TO BE USED WITH SECTION 3 OF UNIT IV TAPES)

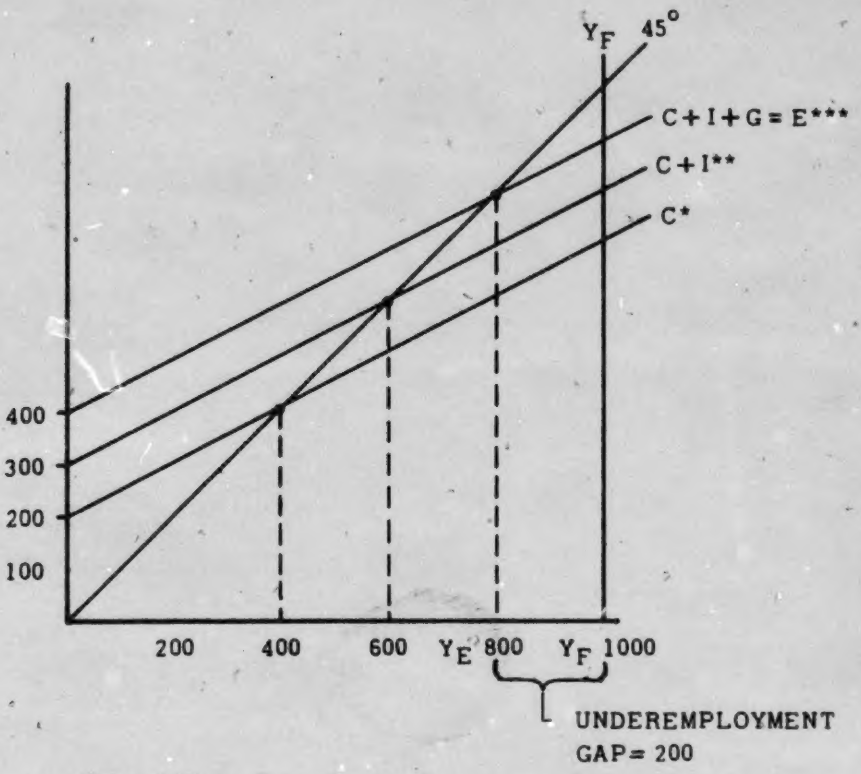
TABLE 4-4: THE MULTIPLIER PROCESS ILLUSTRATED: MPC = .5 OR 50%

Individual	Spending		Income	Receiver of Income
(1) Thief	100.00	GENERATES →	100.00	Bible Salesman
		← INDUCES		
(2) Bible Salesman	50.00	GENERATES →	50.00	Bartender
		← INDUCES		
(3) Bartender	25.00	GENERATES →	25.00	Butcher
		← INDUCES		
(4) Butcher	12.50	GENERATES →	12.50	Farmer
		← INDUCES		
(5) Farmer	6.25	GENERATES →	6.25	Hair Stylist
.....	.....		.....	.....
Totals	$200.00		$200.00	

Illustration of the principle that the larger the MPC, the larger the Simple Keynesian Multiplier

Column 1	Column 2	Column 3
MPC = .9	MPC = .75	MPC = .50
$k = \frac{1}{1 - .9}$	$k = \frac{1}{1 - .75}$	$k = \frac{1}{1 - .50}$
$k = \frac{1}{.1}$	$k = \frac{1}{.25}$	$k = \frac{1}{.50}$
k = 10	k = 4	k = 2

(TO BE USED WITH SECTION 3 OF UNIT IV TAPES)



*C = 200 + .5y
**I = 100
***G = 100

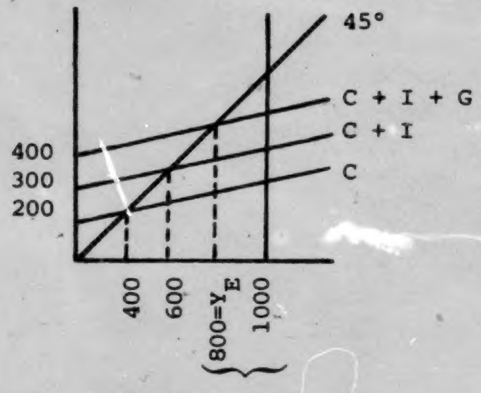
Government spending increase needed to restore full employment = $\frac{\text{Underemployment Gap}}{k} = \frac{200}{2} = 100$

Fig. 4-4: Policy uses of simple Keynesian economics

(TO BE USED WITH SECTION 3 OF UNIT IV TAPES)

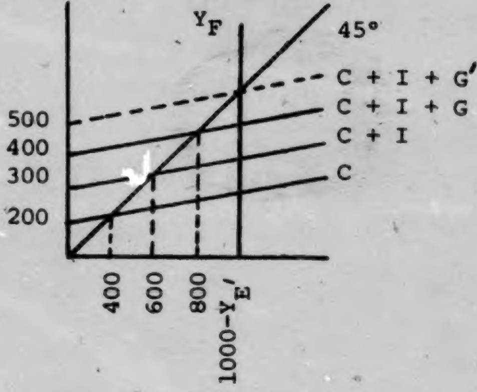
Answer when Model in Fig. 4-4 is solved with an Additional 100 Million Dollars.

Graphically, as in Fig. 4-4:



underemployment gap

with 100 additional G



no underemployment gap

$Y_{E'} = Y_F$

Nongraphically:

$Y_E = kA$

$Y_E = 2 \times 400$

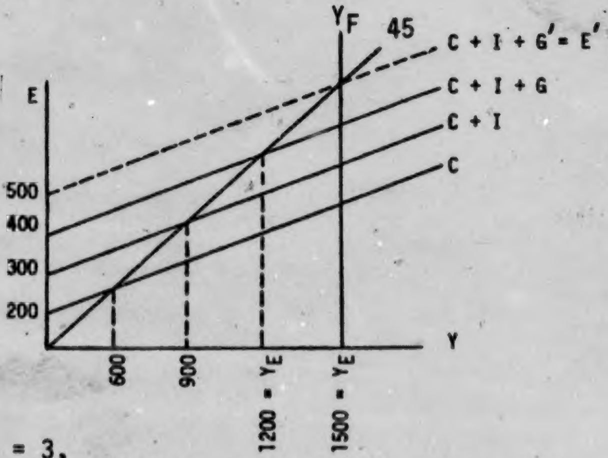
$Y_E = 800$

$Y_{E'} = kA$

$Y_{E'} = 2 \times 500$

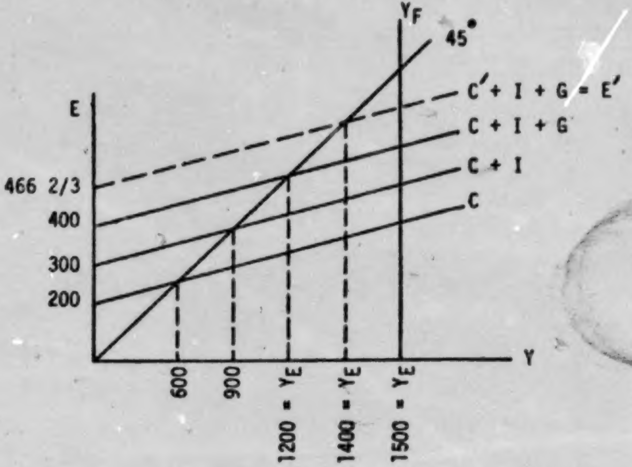
(500 = old A + 100 or A′ of 500)

$Y_{E'} = 1000$



k = 3,
Underemployment Gap = 1500 - 1200 = 300
Thus $\frac{300}{3}$ or 100 additional G will restore full employment

Part A: Increasing government spending



The tax Multiplier, t = k - 1, = 3 - 1 = 2
Underemployment Gap = 1500 - 1200 = 300, but a tax cut of 100 will not eliminate the gap completely

Part B: Cutting taxes

Fig. 4-5: The taxation multiplier

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES)

TABLE 4-5: THE BALANCED BUDGET MULTIPLIER

MULTIPLIER	SPENDING OR TAX CHANGE	INCOME CHANGE	NET INCOME CHANGE
k = 3	+ 100 G	+ 300	100
t = 2	+ 100 Taxes	- 200	

THE BALANCED BUDGET MULTIPLIER = THE CHANGE IN INCOME WHEN BOTH GOVERNMENT SPENDING AND TAXES CHANGE ONE DOLLAR = k - t = 1.

*Calculation of the values in the "Multiplier" column above show the Balanced Budget Multiplier equals one. It should be noted that whenever the Balanced Budget Multiplier is not zero, the $Y_E = kA$ rule will not work. An alternative formula solution is used in these cases.

Mathematical Explanation: Given $C = 200 + 2/3Y$

$$k = \frac{1}{1 - MPC} = \frac{1}{1 - 2/3} = 3$$

$$t = MPC \left(\frac{1}{1 - MPC}\right) = 2/3\left(\frac{1}{1 - 2/3}\right) = \frac{2}{3}$$

The balanced budget multiplier = k - t = 1.

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES)

It should be noted that the following solutions for cases I-V in Example 4-1 are not completely rigorous due to the oversimplified treatment of income. However, the solutions provided in Cases I-V are adequate for this course and any simplification has been done to aid your comprehension of the essential points.

A. EXAMPLE:

$C = 100 + .8Y$

$I = 100$

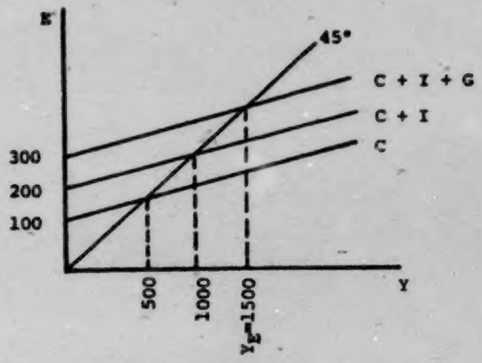
$G = 100$

B. RELEVANT MULTIPLIERS:

(1) Simple Keynesian = $k = \frac{1}{1 - MPC} = \frac{1}{1 - .8} = 5$

C. METHODS OF SOLUTION:

1)



2) $Y_E = kA = 5 \times 300 = 1500$

Example 4-1: Solving simple Keynesian models--
Case I: The simplest case: no taxes and only consumption depends on income

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES).

A. EXAMPLE:

$C = 100 + .8Y$

$I = 100$

$G = 100$

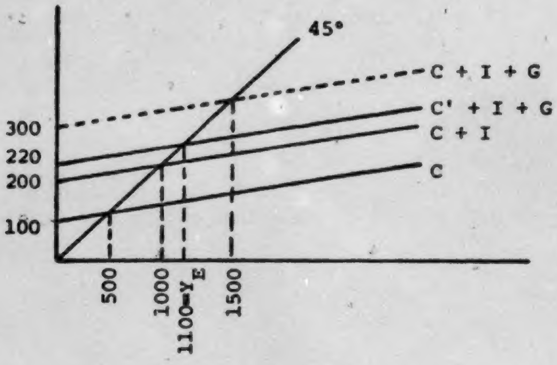
$T = 100$

B. RELEVANT MULTIPLIERS:

1. Simple Keynesian
2. Tax = t = MPC $\left(\frac{1}{1 - MPC}\right) = 0.8 \left(\frac{1}{1. - .8}\right) = 4$
3. Balanced Budget Multiplier thus equals one

C. METHODS OF SOLUTION:

1.



2. $Y_E = kA - tT = 5 \times 300 - (4 \times 100) = 1500 - 400 = 1100$

(Where A does not include taxes)

Example 4-1: Case II--A model including autonomous taxes when only consumption depends on income

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES)

A. EXAMPLE:

$C = 100 + .8Y$

$1 = 100 + .1Y$

$G = 100$

B. RELEVANT MULTIPLIER:

1. Complex Keynesian = $k_c = \frac{1}{1 - MPE} \quad \frac{1}{1 - .9} = 10$

   Where MPE equals the sum of all marginal propensities to spend

C. METHODS OF SOLUTION

1. $Y_E = k_cA = 10 \times 300 = 3000$

2. This model can be solved graphically, but you will not be required to do so unless you are given the necessary assumptions to simplify the graph.

Example 4-1: Case III: Other variables besides consumption depend upon income, but no taxes exist

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES)

A. EXAMPLE:

$C = 100 + .8Y$

$I = 100 + .1Y$

$G = 100$

$T = 100$

B. RELEVANT MULTIPLIERS

1. Complex Keynesian = $\frac{1}{1 - MPE} = \frac{1}{1 - .9} = 10$
2. Tax (Note that MPE, and not MPC, is used to calculate this multiplier) = $k_c - 1 = 10 - 1 = 9$
3. Balanced Budget = $k_c - t = 10 - 9 = 1$

C. METHODS OF SOLUTION:

1. $Y_E = k_cA - tT = 10 \times 300 - (9 \times 100) = 2100$
2. Graphical Solution: Same as Case III

Example 4-1: Case IV: Other variables besides consumption depend on income; autonomous taxes and the balanced budget multiplier assumed = One

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES)

A. EXAMPLE:

$C = 100 + .7Y$

$I = 100 + .1Y$

$G = 100$

$T = 100$

B. RELEVANT MULTIPLIERS:

Same as case IV

C. METHOD OF SOLUTION:

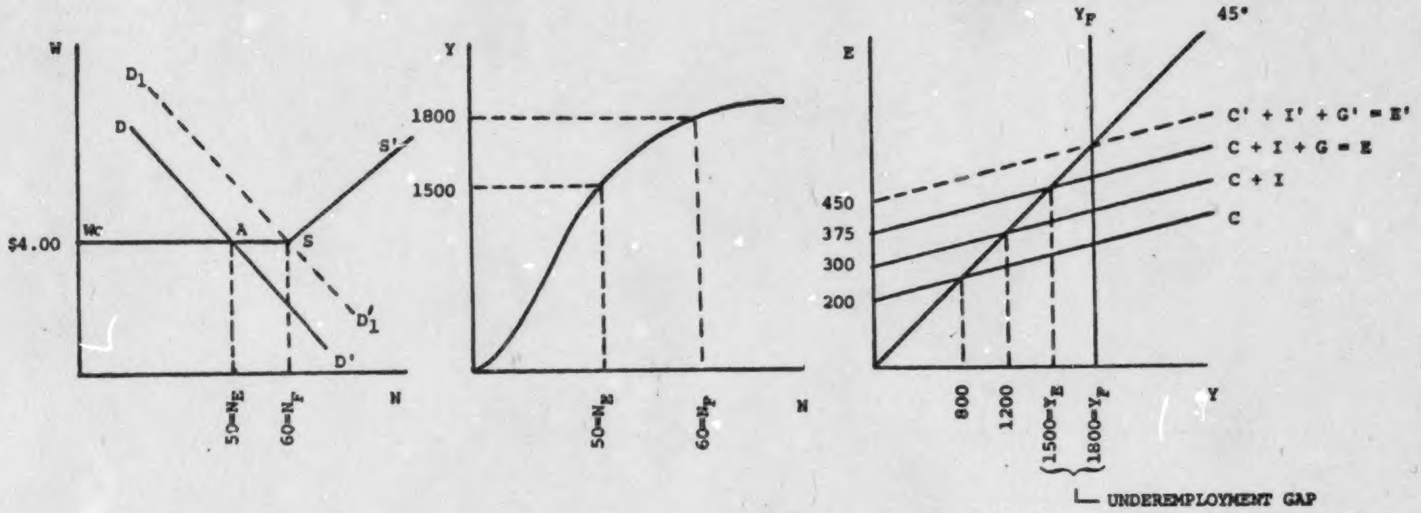
Same as case IV

D. ANSWER:

$Y_E = 1100$

Example 4-1: Case V: A reduction in the marginal propensity to consume.

(TO BE USED WITH SECTION 4 OF UNIT IV TAPES)



Part A: Labor Market Part B: Production Function . Part C: Income and Spending

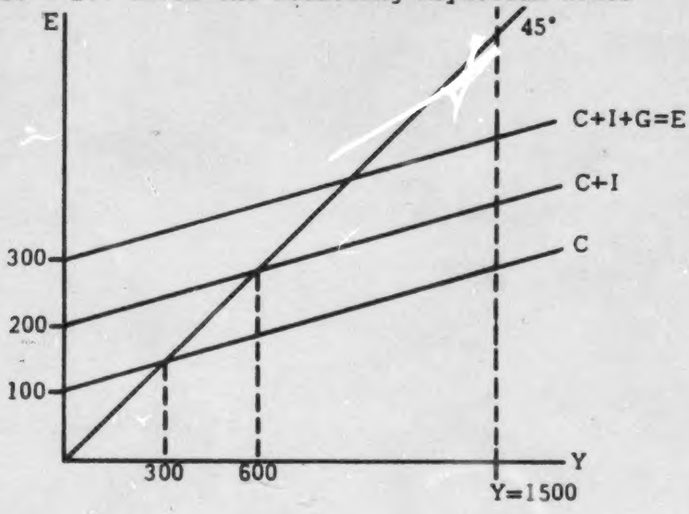
Assuming a Balanced Budget Multiplier of One, there are four basic ways to restore full employment:

1. Increase G by 75
2. Stimulate I to increase by 75
3. Cut taxes by 100
4. Increase G and T both by 300

Fig. 4-6. A more complete Keynesian model

(TO BE USED WITH SECTION 5 OF UNIT IV TAPES)

Exercise 4-2: Given the following Keynesian model



1. What is equilibrium income? ____________________

____

2. What is the underemployment gap? ______________

____

3. What are four ways the government can restore full employment if the balanced budget multiplier is one?

   a. ____________________________________

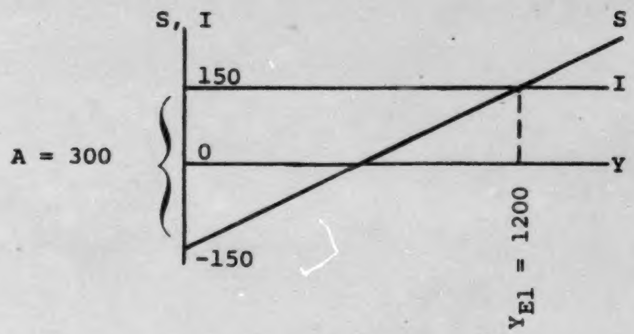
   b. ____________________________________

   c. ____________________________________

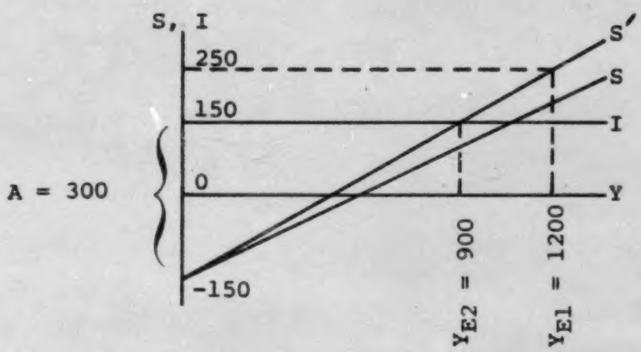
   d. ____________________________________

CHECK YOUR ANSWERS BY TURNING TO PAGE 216

a) The Income Equilibrium:
$A = 300$, $k = 4$,
$Y_E = kA = 1200$



b) Planned Saving > Planned I: k changes to 3 (i.e., MPS increases from 1/4 to 1/3). At the old equilibrium, Planned S > Planned I. Income will fall until they are again equal.



c) Planned I > Planned S. I increases from 150 to 250. At the old equilibrium, Planned I > Planned S. Income will rise again until they are equal.

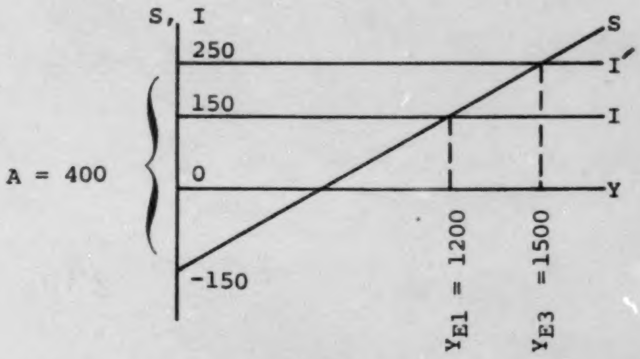


Fig. 4-7. Savings and investment

(TO BE USED WITH SECTION 6 OF UNIT IV TAPES)

ANSWER TO EXERCISE 4-2

1. 900
2. 600
3. a. Increase G by 200
   b. Induce I to increase by 200
   c. Reduce taxes by 300
   d. Increase both taxes and government spending by 600

TABLE 4-6: PLANNED VS. ACTUAL SAVING AND INVESTMENT

Circumstance	Result
Planned S > Planned I	Equilibrium Income will fall until Planned S is reduced sufficiently that $S_P = S_A = I_P = I_A^*$ or Sp = Ip
Planned S = Planned I	Equilibrium exists: $S_P = S_A = I_P = I_A^*$ and income will remain unchanged or Sp = Ip initially
Planned S < Planned I	Equilibrium Income will rise until Planned S is increased sufficiently that $S_P = S_A = I_P = I_A^*$ or Sp = Ip

*Note: $S_A = I_A$ by definition; therefore,

$S_P = I_P$ is the equilibrium condition

(TO BE USED WITH SECTION 6 OF UNIT IV TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST, FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

1. An idealized business cycle is periodic and therefore it:

   a. Is a useful device for analyzing what is happening in the United States at present
   b. It contains well thought-out theories
   c. Goes up and down at regular intervals
   d. Is the most desirable business cycle for the United States
   e. None of the above

2. Marx's business cycle theory

   a. Held true for czarist Russia prior to the communistic revolution which resulted in the formation of the Soviet Union
   b. Accurately describes present day U.S. economic problems
   c. Has never been observed to hold true in its entirety in any nation
   d. All of the above
   e. None of the above

3. Which of the following generalizations can be made about business cycles?

   a. They have been eliminated
   b. They are getting longer
   c. They are getting worse
   d. Both (b) and (c) above
   e. None of the above

4. Historically, in the U.S.

   a. Only the depressed phase of the business cycle has imposed costs on society
   b. Only the prosperity phase of the business cycle has yielded benefits to society
   c. Both depressed and prosperity phases of the cycle impose costs, while only the prosperity phases yield benefits to the society
   d. Both the depressed and prosperity phases of the cycle have imposed costs on, and yielded benefits to, society
   e. None of the above

5. Modern theories of the business cycle in the U.S.

   a. Are more complex than most of their historical predecessors
   b. Fall essentially into two camps: Keynesians (the majority) and Monetarists (the minority)
   c. Fall essentially into camps: Keynesian (capitalistic) and Marxist (communistic-socialistic)
   d. Both (a) and (b) above
   e. None of the above

GO ON TO THE NEXT PAGE

ANSWER QUESTIONS 6 AND 7 ON THE BASIS OF THE FOLLOWING INFORMATION

The MPC = 0.6
The MPI = 0.2

6. The simple Keynesian multiplier will be

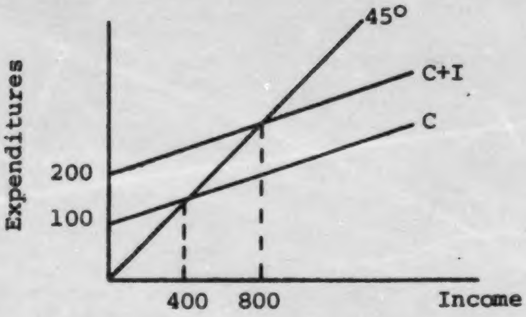
   a. 0.60
   b. 1.67
   c. 2.50
   d. 5.00
   e. 6.00

7. The complex Keynesian multiplier will be

   a. 0.80
   b. 1.25
   c. 2.50
   d. 5.00
   e. 8.00

GO ON TO THE NEXT PAGE

ANSWER QUESTIONS 8 AND 9 ON THE BASIS OF THE FOLLOWING INFORMATION



C = 100 + .75Y

I = 100

G = 200

8. Equilibrium income in this model would be

   a. 800
   b. 1000
   c. 1600
   d. 1700
   e. None of the above

9. If the investors decided to double their investment, the new equilibrium income would be

   a. 1000
   b. 1600
   c. 1700
   d. 2600
   e. None of the above

10. Income is at an equilibrium level in a nongovernment economy or model whenever:

    a. There is only frictional unemployment present
    b. The marginal propensity to consume and the marginal propensity to save are equal
    c. Desired saving equals actual saving and desired investment equals actual investment
    d. Actual saving equals actual investment
    e. Both (a) and (b) above

11. What would most likely happen if people planned to save more than investors planned to invest?

    a. Equilibrium income will remain the same
    b. Equilibrium income will fall
    c. Equilibrium income will rise
    d. Banks will have too much money
    e. None of the above

12. GNP is at an equilibrium:

    a. Whenever there is full employment
    b. Only if marginal propensity to save equals the marginal propensity to invest
    c. Whenever there is full employment with no government intervention
    d. Whenever desired saving equals desired investment
    e. Whenever actual saving equals actual investment

13. At any level of GNP where desired saving exceeds desired investment, which of the following statements is incorrect?

    a. Families are saving more than businesses are willing to continue investing
    b. Undesired inventories are piling up
    c. Business sales are dropping off
    d. Businesses are beginning to cut back production and lay off workers
    e. Intended consumption is too large

14. When potential GNP exceeds actual GNP:

    a. The economy is in a state of disequilibrium
    b. We are at a position of less than full employment
    c. An underemployment gap exists
    d. All of the above
    e. Only (b) and (c) above

15. The "Paradox of Thrift"

    a. Shows that it is necessary to have high levels of savings to obtain rapid economic growth
    b. Demonstrates that pessimistic expectations as to the future state of the economy can be self-fulfilling
    c. Explains the life-cycle theory of consumption behavior
    d. Occurs whenever actual GNP equals potential GNP
    e. None of the above

16. Businesses prefer accelerated depreciation to nonaccelerated depreciation because:

    a. Businessmen prefer the ease of computing accelerated depreciation in filling out their income tax returns, thus reducing costs
    b. Businesses realize their tax savings from depreciation faster with accelerated depreciation
    c. Straight line depreciation only applies to small purchases
    d. All of the above
    e. Only (a) and (c) above

17. Which of the following is not a form of accelerated depreciation

    a. Sum-of-the-years digits
    b. Job development credit
    c. Double-declining balance
    d. Tax surcharge
    e. None of the above

18. An underemployment gap

    a. Exists if the level of aggregate expenditures is less than full employment income
    b. Occurs if, at the full employment level of income, the volume of desired expenditures exceeds the actual output and income
    c. Is a situation which calls for a tax increase as a remedy
    d. All of the above
    e. None of the above

ANSWER QUESTIONS 19 AND 20 ON THE BASIS OF THE FOLLOWING INFORMATION

$C = 200 + .5Y$
$I = 100 + .25Y$
$G = 100$
$T = 0$

19. Equilibrium income will be:

    a. 400
    b. 1600
    c. 800
    d. 3000
    e. None of the above

20. In this model, at equilibrium income, investment will be:

    a. 100
    b. 500
    c. 400
    d. 200
    e. None of the above--there is insufficient information to answer the question

GO ON TO THE NEXT PAGE

ANSWER QUESTIONS 21 TO 25 ON THE BASIS OF THE FOLLOWING INFORMATION

$C = 200 + .8Y$
$I = 100 + .1Y$
$G = 300$
$T = 100$
The balanced budget multiplier is one

21. Equilibrium income in this model would be

    a. 3100
    b. 4600
    c. 5100
    d. 6100
    e. None of the above

22. The government deficit or surplus would be

    a. Zero--the budget is balanced because the balanced budget multiplier is one
    b. A surplus of 200
    c. A deficit of 200
    d. A deficit of 310
    e. A surplus of 310

23. If the full employment income (Y_F) were 270 above the original equilibrium income and the government tried to restore full employment by cutting taxes by 50

    a. The policy would be successful--full employment would be restored
    b. The tax cut would be too small to restore full employment
    c. The tax cut would be too large--over-full employment would result
    d. None of the above because with a balanced budget multiplier of one, tax cuts do not effect the economy
    e. None of the above

24. What would the government deficit or surplus be at this new income?

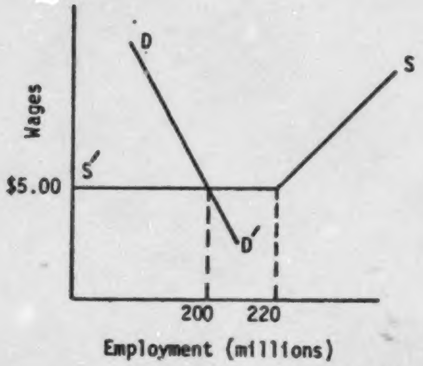
    a. Zero--the budget is balanced because the balanced budget multiplier is one
    b. A surplus of 250
    c. A deficit of 360
    d. A surplus of 360
    e. None of the above

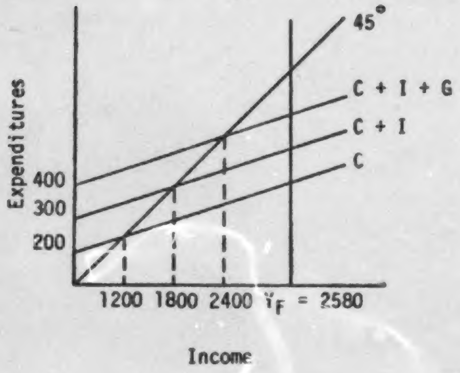
25. The relevant Keynesian multiplier in this model would be:

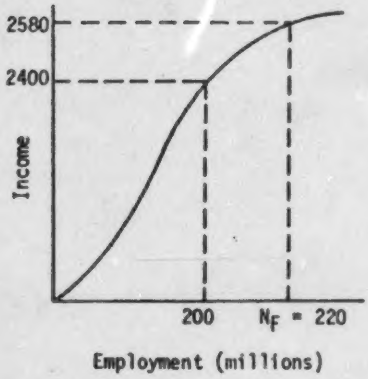
    a. 1.25
    b. 5.00
    c. 9.00
    d. 10.00
    e. None of the above

GO ON TO THE NEXT PAGE

ANSWER QUESTIONS 26 TO 30 ON THE FOLLOWING PAGES ON THE BASIS OF THE INFORMATION GIVEN BELOW ABOUT A WORLD IN WHICH NO TAXES EXIST







26. The relevant Keynesian multiplier in this model is

    a. 3.00
    b. 4.00
    c. 6.00
    d. 12.00
    e. None of the above

27. Equilibrium income in this model is

    a. 2580
    b. 2400
    c. 3200
    d. This model does not have an equilibrium income because of the nature of the labor market
    e. None of the above

28. If the government restored full employment by successfully stimulating investment, investment would have to increase by:

    a. 30
    b. 100
    c. 180
    d. None of the above is a correct answer because full employment already is in existence in the model
    e. None of the above

29. Consumption expenditure at the full employment income level is

    a. 200
    b. 2150
    c. 2350
    d. 2400
    e. None of the above

30. In the original equilibrium described by the original diagrams, the government deficit or surplus would be

    a. A deficit of 100
    b. A deficit of 180
    c. A deficit of 400
    d. A surplus of 400
    e. None of the above

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM B

1. c
2. c
3. e
4. d
5. d
6. c
7. d
8. c
9. e
10. c
11. b
12. d
13. e
14. e
15. b
16. b
17. d
18. a
19. b
20. b
21. c
22. c
23. c
24. e
25. d
26. c
27. b
28. a
29. c
30. a

DO NOT REQUEST THE END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC TEST WITHOUT DIFFICULTY

Exercise 4-1:

Below is a list of terms often used in simple Keynesian systems. Write the symbol commonly used for each term and the meaning of each term:

1. Investment
2. Consumption or Consumption Spending
3. Government Spending
4. Aggregate Spending
5. Autonomous or Exogenous Spending
6. Income
7. Equilibrium Income
8. Full Employment Income
9. Employment
10. Equilibrium Employment
11. Full Employment
12. Unemployment
13. Frictional Unemployment
14. Cyclical Unemployment
15. Technological or Structural Unemployment
16. Savings

CHECK YOUR ANSWER BY TURNING TO TABLE 4-1, PAGE 198

V

MONEY,
THE BANKING SYSTEM,
AND INTEREST RATES

OVERVIEW

The topic of this unit is money, the banking system, and interest rates, and the relationship among these three components of our economic system. At the end of the unit, you should be able to demonstrate (1) an understanding of money, a fractional reserve banking system, the Federal Reserve system, and the money creation process; (2) comprehension of interest rates, the factors that cause interest rates to vary, and the role interest rates play in the enonomy; and (3) comprehension of the techniques, use, and goals of monetary policy.

You should understand that, economically, income and not money is important. Money is only a useful tool that helps us spend our income. You should also understand that monetary policy significantly alters the economic performance of the nation. Money is only a tool, but it is one of the most important tools yet discovered by mankind.

PERFORMANCE OBJECTIVES

1. Demonstrate an understanding of the monetary system of the U.S. by
    - a. Identifying components and functions of the U.S. money supply
    - b. Defining fiat or fiduciary currency and commodity money
    - c. Identifying examples and advantages of fiduciary money

2. Define the following terms:
    - a. Bonds
    - b. Consols
    - c. Excess reserves
    - d. Risk in terms of loans and interest rates
    - e. Open market operations
    - f. Real value of checking account balances
    - g. Money multipliers
    - h. Federal Reserve sterilization operations
    - i. Fractional reserve banking systems and recognize the significance of each of these terms

3. Identify factors which influence a commercial bank's ability to create money and the ability of the banking system to create money.

4. Demonstrate an understanding of fractional reserve banking systems by determining each of the following, given hypothetical bank balance sheets:
    - a. Required, actual, and excess reserves
    - b. Demand deposits
    - c. The effect of reserve requirements, outstanding demand deposits, actual and excess reserves, and money loaned on the expansion of the monetary supply of the nation
    - d. The effect of government bond sales or purchases by the Fed and use of the resulting revenues by banks to expand loans

   e. Amounts by which loans can be expanded
   f. The effect of checks being drawn against the bank
   g. The overall fiscal well being of the bank

5. Determine the money supply in "all demand deposit" economies, given the reserve requirement and relevant information about total bank reserves, the monetary base, or information about excess reserves.

6. Demonstrate an understanding of the structure of the U.S. Federal Reserve System by identifying each of the following:

   a. Elements or salient characteristics of the system
   b. Functions of the system
   c. Tools of the system
   d. Liabilities of the system

7. Demonstrate an understanding of Federal Reserve policy actions on the economy by:

   a. Identifying the purpose of both easy and tight money policies
   b. Predicting the result of an excess money supply or demand for money
   c. Predicting the result of using monetary policy to stimulate or contract the economy
   d. Identifying the most powerful tool of the Federal Reserve for contracting or stimulating the economy
   e. Recommending the most appropriate Federal Reserve policy action(s) for both stimulating and contracting the economy
   f. Recommending the most appropriate Federal Reserve policy for effecting an increase in lending abilities of commercial banks
   g. Recommending the most appropriate Federal Reserve policy for reducing inflationary pressure by contracting the economy
   h. Predicting the result when the Fed tries to control the economy by reducing reserve requirements

8. Demonstrate an understanding of interest rates by:
   - a. Identifying results or effects of usury laws
   - b. Identifying the relationship between real and nominal interest rates
   - c. Predicting the result of imposing restrictions on minimum and maximum interest rates and bank lending activities
   - d. Identifying relationships among interest rates, length of the loan period, amount of risk involved, inflation rates, and between increases and decreases in short and long term interest rates.

9. Given the amount of yearly return and the interest rate, determine the actual cost and selling price of consols.

10. Given both the nominal and the real interest rate, calculate the inflation rate, and given both the nominal interest rate and the inflation rate, calculate the real interest rate.

11. Identify relationships among empirical and theoretical money multipliers and reasons for such relationships.

SELF-DIAGNOSTIC TEST FORM A

NOTE: ON THIS EXAMINATION, MONEY--UNLESS OTHERWISE SPECIFIED--REFERS TO THE NORMAL FORMS OF MONEY IN USE IN THE U.S. AND DOES NOT INCLUDE OBSOLETE FEDERAL CURRENCIES, GOLD COINS, THE SILVER CONTENT OF SILVER DOLLARS, WAMPUM, ETC.

1. What constitutes the money supply in the U.S.?

    a. Coins such as silver, copper, and other metals, and other certificates backed by silver and gold
    b. Coins, paper money, and demand deposits
    c. Cash plus all deposits at commercial banks
    d. Both (b) and (c) above
    e. None of the above

2. Fiat currency

    a. Is script issued and backed by an Italian automobile manufacturer for use by its employees
    b. Is the only type of currency that has ever existed
    c. Is currency that is backed 100% by precious metal
    d. Only consists of demand deposits
    e. None of the above

3. Money is not

    a. A medium of exchange
    b. Only metal coins and currency backed by gold and silver
    c. A unit of accounting
    d. A temporary store of purchasing power
    e. A transaction facilitator

ANSWER QUESTIONS 4 TO 6 ON THE BASIS OF THE FOLLOWING INFORMATION:

Balance Sheet for the 11th National Bank of Remus

LIABILITIES		ASSETS	
Demand Deposits	$100,000	Buildings & Equipment	$100,000
Capital Stock	$100,000	Cash	$ 50,000
		Loans	$ 50,000

Reserve requirement: 20%

4. The 11th National Bank of Remus would be required to hold reserves of:

   a. $10,000
   b. $20,000
   c. $40,000
   d. $80,000
   e. None of the above

5. The bank would presently have excess reserves of:

   a. minus $30,000
   b. $10,000
   c. $40,000
   d. $130,000
   e. None of the above

6. If the bank lent an additional $10,000, the money supply in the nation would eventually expand by:

   a. Zero
   b. $8,000
   c. $10,000
   d. $20,000
   e. $50,000

7. Suppose a person bought a consol which gave him $1,000 per year forever and the interest rate were 1%. This consol would cost:

   a. $10,000
   b. $100,000
   c. $1,000,000
   d. $10,000,000
   e. None of the above

8. If the interest rate rose to 10%, the above consol could be sold for:

   a. $1,000
   b. $10,000
   c. $90,000
   d. $100,000
   e. $1,000,000

9. If the money supply is increased, according to simple Keynesian theory of a normally operating economy,

   a. Bond prices will rise
   b. The interest rate will fall
   c. Investment will increase
   d. All of the above
   e. Only (b) and (c)

10. The existence of usury laws:

   a. Provides an incentive for illegal lending by loan sharks
   b. Always improves the performance of the economy
   c. Makes it easier for everyone to get loans
   d. Forces financial institutions to compete with loan sharks
   e. None of the above

11. A restriction on the rate of interest payable by saving and loan associations leads to:

    a. Too many savings
    b. No advertising
    c. A restriction on the amount of mortgage money available for housing
    d. Too much advertising
    e. A surplus of mortgage funds sitting idle in the vaults of savings and loan associations

12. If the nominal rate of interest on a loan is 8% but the real interest rate on the loan is 4%, the inflation rate is:

    a. Zero
    b. 2%
    c. 4%
    d. 12%
    e. None of the above

13. If the Federal Reserve wanted to try to stimulate the economy, it could:

    a. Increase the money supply
    b. Lower the tax rate
    c. Decrease government spending
    d. Both (a) and (b) above
    e. None of the above

14. Which of the following is not true of the Federal Reserve System in the U.S?

    a. It consists of 12 Federal Reserve Banks
    b. It engages in open market operations
    c. It sets the discount rate
    d. All commercial banks in the U.S. must be members of the system
    e. All of the above are characteristics of the Fed so none are correct answers

15. In an all demand deposit economy, if total bank reserves were $200, and the reserve requirement were 20%, the money supply in this economy would be:

    a. $1,000
    b. $400
    c. $160
    d. $40
    e. None of the above

16. A bond may be defined as a:

    a. Fixed nominal income-bearing asset
    b. Fixed real income-bearing asset
    c. Liability to the economic entity which holds it
    d. Both (b) and (c) above
    e. None of the above

17. Excess reserves

    a. Never actually occur because banks earn no interest on them and are consequently unwilling to hold them
    b. Are phenomena which normally appear whenever interest rates are extremely high
    c. Are phenomena which exist as extra precautionary reserves that banks wish to hold, sometimes even at high interest rates
    d. Are equal to the money supply divided by demand deposits
    e. None of the above

18. When interest rates get very high

    a. No one can afford to borrow
    b. Banks are definitely making higher profits
    c. Usury laws should definitely be enacted
    d. There may be an expectation that the purchasing power of money which is loaned will decrease in the future
    e. None of the above

19. We would generally expect that interest rates would increase as the:

    a. Length of the loan period increases
    b. Risk involved in the loan increases
    c. Rate of inflation increases
    d. All of the above
    e. Only (b) and (c) above

20. When the reserve requirement is increased

    a. Commercial banks will be able to create less money from a given amount of total reserves
    b. Fractional reserve banks are forced out of existence
    c. The money supply increases
    d. Both (a) and (b) above
    e. None of the above

21. The empirically observed money multiplier is:

    a. Virtually identical to the theoretical money multiplier
    b. Smaller than the theoretical money multiplier
    c. Larger than the theoretical money multiplier
    d. Not of much use as an economic tool
    e. None of the above

22. Suppose the bank of Beal City has no excess reserves and Company X deposits $100,000 in cash in the Bank of Beal City. If the reserve ratio is 20%, the Bank of Beal City can increase the money supply by a maximum of:

    a. $50,000
    b. $80,000
    c. $100,000
    d. $180,000
    e. $500,000

GO ON TO NEXT PAGE

ANSWER QUESTIONS 23 TO 27 ON THE BASIS OF THE FOLLOWING INFORMATION ABOUT CMU NATIONAL BANK.

ASSETS		LIABILITIES & NET WORTH	
Office	$10	Demand Deposits	$100
Loans Outstanding	$10	Capital Stock	$ 10
U.S. Bond	$50		
Cash	$40		
Reserve requirement: 20%			

23. CMU National Bank would have excess reserves of:

    a. $18
    b. $20
    c. $30
    d. $68
    e. $70

24. If a check for $50 was drawn against CMU National Bank, and the bank sold its U.S. Bond, it could expand its loans by a maximum of:

    a. $28
    b. $30
    c. $78
    d. $80
    e. $85

25. If the bank next received (after having expanded its loans as indicated in Question 24 above) a $150 cash deposit, it would have excess reserves of:

    a. $90
    b. $98
    c. $100
    d. $120
    e. $160

26. If a check for $160 were drawn against this bank, it would

    a. Be unable to pay the check
    b. Have excess reserves of minus $8
    c. Have total reserves of zero
    d. Both (a) and (c) above
    e. Both (b) and (c) above

27. Given the situation in Question 26, CMU National Bank would be:

    a. Bankrupt
    b. In violation of federal reserve regulations but not yet bankrupt
    c. In compliance with federal reserve policy
    d. Bankrupt if another withdrawal were made before it could reduce its loans outstanding or receive new deposits
    e. Both (b) and (d)

28. If the Federal Reserve wants to increase the lending ability of commercial banks, it can

    a. Have the U.S. Treasury cut taxes on banks
    b. Buy securities in the open market
    c. Raise reserve requirements
    d. Sell securities in the open market
    e. Both (c) and (d)

29. The purpose of an easy money policy includes:

    a. Increasing total expenditures
    b. Reducing aggregate expenditures
    c. Reducing investment
    d. Increasing savings at every income level
    e. All of the above except (a)

30. In regard to loans and interest rates, risk includes:

    a. The probability that the borrower will not pay the obligated interest
    b. The probability that the borrower will not pay back the capital
    c. Only the probability that the borrower will not pay back the capital--the probability of losing the interest is an opportunity cost
    d. Both (a) and (b) above
    e. Both (b) and (c) above

31. If the reserve requirement in a simple all demand deposit economy were 10% and the monetary base were increased from $100 million to $200 million, the money supply would increase by a maximum of

    a. $2000 million
    b. $1000 million
    c. $20 million
    d. $10 million
    e. None of the above

32. Which of the following is/are basic parts of the Federal Reserve system?

    a. Twelve Federal Reserve districts
    b. An Open Market Committee which sells and buys U.S. Government bonds in the New York bond market
    c. The U.S. Treasury
    d. All of the above
    e. Only (a) and (b) above

CHECK YOUR ANSWER BY TURNING TO THE ANSWER KEY FOR FORM A OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. b
2. e
3. b
4. b
5. e
6. e
7. b
8. b
9. d
10. a
11. c
12. c
13. a
14. d
15. a
16. a
17. c
18. d
19. d
20. a
21. b
22. b
23. b
24. b
25. d
26. e
27. e
28. b
29. a
30. d
31. b
32. e

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook Reference: Roger Leroy Miller. Economics Today. Canfield Press, 1973, pp. 215-251.

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	1-3	215-217	251-254	9	1
2	16,17,30	215-229	255-259	10	2
3	20	217-221	255-259	10	2
4	4-6;22-27	217-221	255-259	10	2
5	15,31	217-221	255-259	10	2
6	14,32	221-226	260	11	3
7	9,13,28,29	226-227	260	11	3
8	10,11,	232-242	261-262	11	4
	18,19	244-251	263	11	5
9	7,8	232-242	261-262	11	4
			263	11	5
10	12	232-242	261-262	11	4
			263	11	5
11	21	none	255-259	10	2

SUPPLEMENTAL MATERIALS

As in Units II-IV, most of the supplemental material for Unit V has been recorded on audiotape. The remainder of the supplemental material for this unit is in the form of diagrams and tables in the Study Guide. The tape will direct you to relevant study guide pages which should be used with each tape.

Audiotapes 9, 10, and 11 are to be used for Unit V.

TABLE 5-1: SOME OF THE MOST IMPORTANT FUNCTIONS OF MONEY

FUNCTION	EXPLANATION
1. A Medium of Exchange	Money is the item which changes hands when goods and services (or economic resources) are exchanged. It eliminates the need to barter goods and services directly.
2. A Unit of Account	The prices (or sales value) of various products or resources are expressed in terms of money.
3. A Store of Value	Money serves as a convenient (and relatively stable) device for conserving purchasing power for the future.
4. A Standard of Deferred Payments	Contracts for payment at some time in the future are normally made in terms of money.
5. There are many other Functions of Money	

(TO BE USED WITH SECTION I OF UNIT V TAPES)

TABLE 5-2: MONEY IN THE U.S.

TYPE OF MONEY	DEFINITION
Coins	Metal tokens issued by the Federal Government (pennies, dimes, etc.)
Currency	Paper certificates printed by the Federal Government, usually the Federal Reserve System (1,5,10 dollar bills, etc.).
Demand Deposits	Checking accounts issued by the commercial banking system

(TO BE USED WITH SECTION 1 OF UNIT V TAPES)

TABLE 5-3: NEAR-MONEY IN THE U.S.

TYPE OF NEAR-MONEY	REASON FOR NOT BEING MONEY
Savings Accounts	Cannot be spent directly; There are also limits (often admittedly nonenforced) on their conversion to cash.
U.S. Government Securities	Must first be converted to money before they can be spent; their value often fluctuates.
Credit Cards	Are only acceptable to those who issue them. How much money does each represent? The bill is also normally eventually paid by check.

(TO BE USED WITH SECTION 1 OF UNIT V TAPES)

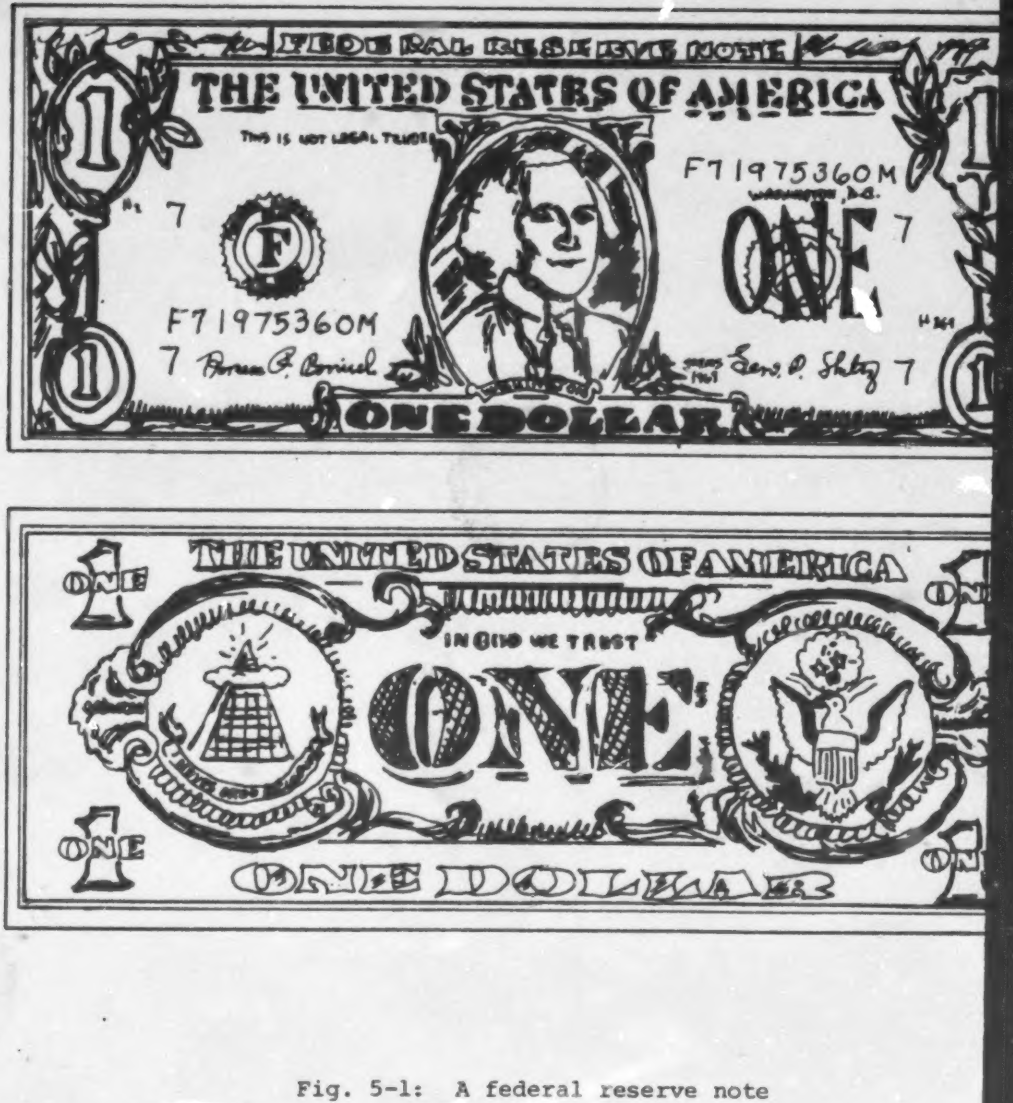


Fig. 5-1: A federal reserve note

(TO BE USED WITH SECTION 1 OF UNIT V TAPES)

TABLE 5-4: SIMPLE AND COMPLEX MONEY MULTIPLIERS

The Theoretical or Simple Money Multiplier:

1. $m = \dfrac{1}{\text{The reserve requirement}}$

Example 1: The reserve requirement = 10%

$$m = \frac{1}{.10} = 10$$

Example 2: The reserve requirement = 20%

$$m = \frac{1}{.20} = 5$$

2. Also, $m = \dfrac{\text{The money supply}}{\text{The monetary base}}$

Example 3: The money supply = $500 billion
The monetary base = $100 billion

$$m = \frac{\$500 \text{ billion}}{\$100 \text{ billion}} = 5$$

The Empirically Determined or Complex Money Multiplier:

m_c = The money multiplier as actually calculated by empirical study (or the simple money multiplier corrected for all the complexities of the economic system).

(TO BE USED WITH SECTION 2 OF UNIT V TAPES)

Balance Sheet A

Assets		Liabilities	
U.S. Government Bonds	$150,000	Demand Deposits	$300,000
Loans	120,000		
Deposits at Fed	30,000		

Reserve Requirement: 10%

1. This bank is "loaned up." It needs $30,000 of required reserves since

   Demand Deposits x Reserve Requirement =
   $300,000 x .10 = $30,000,

   and has this amount deposited at Fed (see Balance Sheet A

2. However, suppose this bank were to receive a new $100,000 demand deposit in cash. The bank's balance sheet would then look like Balance Sheet B on the following page.

- -

Example 5-1: Hypothetical Bank Balance Sheet A for the 12th National Bank of Remus, Michigan

Assume the bank receives a new $100,000 demand deposit in cash. It's new balance sheet would look like Balance Sheet B.

Balance Sheet B

Assets		Liabilities	
U.S. Government Bonds	$150,000	Demand Deposits	$400,000
Loans	120,000		
Deposits at Fed	30,000		
Cash	100,000		

Reserve Requirement: 10%

1. The bank now needs $40,000 required reserves
2. It has $130,000 total reserves, so it has $90,000 excess reserves and can thus lend $90,000.

- -

The $100,000 new deposit, when fully worked through the monetary system, will convert the $100,000 cash into $1,000,000 in demand deposits since:

$$\frac{\$100{,}000}{.10}\ \left(\text{or } \frac{\underline{\text{any}}\ \text{change in reserves}}{\text{reserve requirement}}\right) = \$1{,}000{,}000$$

or the Total Change in the Money Supply

Example 5-1: (Continued) Hypothetical Bank Balance Sheet B for the 12th National Bank of Remus, Michigan

(TO BE USED WITH SECTION 2 OF UNIT V TAPES)

Balance sheet of the 12th National Bank of Remus, Michigan, after expanding its loans to the legal maximum

Assets		Liabilities	
U.S. Government Bonds	$150,000	Demand Deposits	$400,000
Loans ($120,000 "old loans" 90,000 "new loans")	210,000		
Deposits at Fed	30,000		
Cash	10,000		

	Balance sheets of other banks before loans are expanded to the legal maximum		Balance sheets of other banks after loans are expanded to the legal maximum	
	Assets	**Liabilities**	**Assets**	**Liabilities**
Bank 2	$90,000-New Cash	$90,000-New Demand Deposits	$81,000-New Loans 9,000 New Reserves	$90,000-New Demand Deposits
Bank 3	$81,000 New Cash	$81,000 New Demand Deposits	$72,900 New Loans 8,100 New Cash Reserves	$81,000 New Demand Deposits
All Other Banks	$729,000 New Cash	$729,000 New Demand Deposits	$656,100 New Loans 72,900 New Cash Reserves	$729,000 New Demand Deposits

The End Result of the Above Transactions in The Banking System as a Whole

Assets		Liabilities	
$900,000	New Loans	$1,000,000	New Demand Deposits
100,000	New Cash Reserves		

Example 5-1: Part B. The expansion process illustrated

(TO BE USED WITH SECTION 2 OF UNIT V TAPES)

Assets		Liabilities	
Buildings and equipment	$100,000	Demand Deposits	$100,000
Cash	100,000	Capital Stock	100,000

With a reserve requirement of 20%

A. This bank would have:
   1. Reserves of $100,000: The Cash
   2. Required reserves of $20,000:
      Demand Deposits x Reserve requirement =
      .20 x $100,000
   3. Excess reserves of $80,000: Reserves-required reserves

B. The bank could then make loans of $80,000:
   Any Single Bank can lend its excess reserves.

If the loans referred to in B above were made the new balance sheet would be:

Assets		Liabilities	
Buildings and equipment	$100,000	Demand Deposits	$100,000
		Capital Stock	100,000
Cash	20,000		
Loans	80,000		

A. Its reserves would now = its required reserves = $20,000.

B. The $80,000 would become reserves for some other bank in the system; eventually $\frac{\$80,000}{.20} = \$400,000$ in new demand deposits would be created by the banking system as a whole.

Example 5-2: Hypothetical Commercial Bank Balance Sheet: 9th National Bank of Remus, Michigan

(TO BE USED WITH SECTION 2 OF UNIT V TAPES)

TABLE 5-5: THE FEDERAL RESERVE SYSTEM (FED) AND MONETARY POLICY

TOOLS OF THE FED

1. Open Market Operations: Buying and selling Government Bonds. As a matter of policy, this is done in the New York Bond Market.
2. Setting the Discount Rate: Setting the rate at which the Fed will lend funds to the commercial banks.
3. Setting the Reserve Requirement: Setting the percentage of their deposits which the commerical banks must retain as reserves.

Monetary Policy Actions of the Fed and Their Effects

Expansionary Monetary Policies (to Stimulate the Economy)	Contractionary Monetary Policies (to Restrain the Economy)
1. Buy Government Bonds	1. Sell Government Bonds
2. Lower the Discount Rate	2. Raise the Discount Rate
3. Lower the Reserve Requirement	3. Raise the Reserve Requirement

(TO BE USED WITH SECTION 3 of UNIT V TAPES)

TABLE 5-6: HYPOTHETICAL INTEREST RATE

Borrower	Interest	Loan
U.S. Government	6%	$100,000 90-day Treasury Note
Local Mayor	10%	$5,000 New Car Loan
Joe Smith	13,104.63% *	$100 Loan from Loanshark to Pay off Debt to Bookie

*This may seem an astounding figure, but the typical one week loan, $6 for $5, yields this interest rate when compounded to an annual rate.

(TO BE USED WITH SECTION 4 OF UNIT V TAPES)

TABLE 5-7: THE RELATIONSHIP BETWEEN REAL AND NOMINAL INTEREST RATES

SYMBOLS

1. r = The real rate of interest (i.e., the purchasing power gained by making the loan).
2. i = The nominal rate of interest (i.e., the interest rate stated in the loan agreement).
3. $\Delta P/\Delta t$ = The rate of change of prices (i.e., the rate of inflation or deflation).

FORMULA

The real interest rate = The nominal interest rate minus the rate of change of prices or $r = i - \Delta P/\Delta t$

EXAMPLES (WITH A 10% NOMINAL INTEREST RATE)

1. With prices falling at 10% per year:

   $r = i - \Delta P/\Delta t$

   $r = 10\% - (-10\%) = 10\% + 10\% = 20\%$

2. With prices constant:

   $r - i - \Delta P/\Delta t$

   $r = 10\% - 0\% = 10\%$

3. With prices rising at 5% per year:

   $r = 10\% - 5\% = 5\%$

4. With prices rising at 10% per year:

   $r = 10\% - 10\% = 0$

5. With prices rising at 15% per year:

   $r = 10\% - 15\% = - 5\%$

(TO BE USED WITH SECTION 4 OF UNIT V TAPES)

FORMULA: $\text{Price of Consol} = \dfrac{\text{Nominal Interest Payment}}{\text{Interest Rate}}$

EXAMPLE: A Consol Paying $1,000 per year forever

1. The Interest Rate, r, = 1%

   $\text{Price of the Consol, P,} = \dfrac{\text{Interest Payment}}{\text{Interest Rate}}$

   $P = \dfrac{\$1{,}000}{.01} = \$100{,}000$

2. r = 5%

   $P = \dfrac{\$1{,}000}{.05} = \$20{,}000$

3. r = 10%

   $P = \dfrac{\$1{,}000}{.10} = \$10{,}000$

4. r = 20%

   $P = \dfrac{\$1{,}000}{.20} = \$5{,}000$

5. r = 40%

   $P = \dfrac{\$1{,}000}{.40} = \$2{,}500$

Fig. 5-2: Consols as an example of the relationship between the interest rate and bond prices

(TO BE USED WITH SECTION 5 OF UNIT V TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

NOTE: ON THIS EXAMINATION, MONEY--UNLESS OTHERWISE SPECIFIED--REFERS TO THE NORMAL FORMS OF MONEY IN USE IN THE U.S. AND DOES NOT INCLUDE OBSOLETE FEDERAL CURRENCIES, GOLD COINS, THE SILVER CONTENT OF SILVER DOLLARS, WAMPUM, ETC.

1. All money in the U.S. is:

   a. Legal tender for all public and private purchases and debts
   b. Not backed by any commodity but is accepted on faith
   c. Created by federal mints and the Federal Reserve
   d. All of the above
   e. Only (a) and (b)

2. Examples of the emergence of the use of fiduciary money include

   a. Cigarettes replacing currency in Germany after Germany's military defeat
   b. Federal Reserve notes replacing silver certificates
   c. The growing acceptance of payment by check in the U.S.
   d. Both (a) and (b)
   e. Both (b) and (c)

3. Of the following, fiduciary money has its largest advantage over commodity money when money serves the function of

   a. Standard of measure for future payments
   b. Medium of exchange
   c. Store of value
   d. Unit of accounting
   e. Measure of human happiness

ANSWER QUESTIONS 4 TO 6 ON THE BASIS OF THE FOLLOWING INFORMATION:

Balance Sheet for 12th National Bank of Remus			
Assets		**Liabilities**	
U.S. Gov't Bonds	$50,000	Demand Deposits	$200,000
Loans	$50,000		
Cash	$50,000		
Deposits at Federal Reserve	$50,000		
Reserve Requirement: 10%			

4. The 12th National Bank of Remus would have excess reserves of:

   a. $30,000
   b. $40,000
   c. $80,000
   d. $130,000
   e. None of the above

5. If the bank sent a special messenger to the Federal Reserve and got $50,000 cash for its $50,000 deposit, it would have excess reserves of:

   a. $30,000
   b. $40,000
   c. $60,000
   d. $80,000
   e. $130,000

6. If this bank sold its government bonds to the Fed and lent out the $50,000, but did nothing else, eventually, the money supply in the nation would increase by:

   a. $40,000
   b. $50,000
   c. $500,000
   d. $2,000,000
   e. None of the above

7. Suppose a person bought a consol which paid him $1000 per year forever and the interest rate was 4%. The consol would cost:

   a. $4000
   b. $25,000
   c. $40,000
   d. $250,000
   e. $400,000

8. If the interest rate rose to 5%, this consol could be sold for

   a. $5000
   b. $20,000
   c. $50,000
   d. $200,000
   e. None of the above

9. If the money supply is increased, according to simple Keynesian theory of a normally operating economy

   a. Bond prices will fall
   b. The interest rate will rise
   c. Investment will increase
   d. GNP will decrease
   e. All of the above

10. Whenever nominal interest rates are high, we can be sure that

    a. Real interest rates are high
    b. Real interest rates are low
    c. Business activity is near an all-time low
    d. Loan shark rates are at an all-time high
    e. None of the above

11. If the state enacts a maximum 12% interest rate on loans, which of the following is not true?

    a. It will have no effect if the prevailing interest rate is above 12%
    b. Many lenders will attempt to eliminate making loans to their riskier borrowers
    c. It will not solve all the problems in the money market
    d. An incentive for illegal lending at higher interest rates will be created
    e. None of the above

12. If the nominal interest rate on a loan is 5% and the inflation rate is 10% the real interest rate on the loan is:

    a. Minus 5%
    b. Zero
    c. 5%
    d. 15%
    e. 50%

13. If the Federal Reserve wished to try to stimulate the economy, it could:

    a. Buy government bonds in the open market
    b. Lower the reserve requirement
    c. Raise the discount rate
    d. All of the above
    e. Only (a) and (b)

14. Which of the following is not true of the Federal Reserve System in the U.S.?

    a. It consists of twelve Federal Reserve Banks
    b. It engages in open market operations
    c. It sets the various interest rates in the economy
    d. Some banks in the U.S. are members of the system
    e. None of the above

15. In an all demand deposit economy, if total bank reserves are $100 billion, but commercial banks always keep $20 billion excess reserves, given a reserve requirement of 20%, the money supply in the nation would be:

    a. $40 billion
    b. $80 billion
    c. $400 billion
    d. $500 billion
    e. The question cannot be answered with the information given

16. A fractional reserve banking system

    a. Does not exist in the United States
    b. Is a primary tool by which the Federal Reserve can control the monetary system
    c. Would not exist in absence of better government regulation of the banking system
    d. Has not experienced any changes in the past
    e. None of the above

17. Open market operations are not

    a. A method by which the Federal Reserve can alter the money supply
    b. Carried out by the Federal Open Market Committee
    c. The least effective method the Fed has of altering the money supply
    d. One of several ways the Fed can enact monetary policy
    e. None of the above

18. On an economic basis, which of the following interest rates would we expect to be the highest?

    a. Rates on long term corporate bonds
    b. Rates charged by loan sharks
    c. Finance company rates
    d. Rates on short term corporate bonds
    e. Rates on short term treasury bills

19. We generally observe that various interest rates:

    a. Move in the same direction
    b. Rise at the same rate but fall at very different rates
    c. Move in different directions
    d. Fall at the same time but rise at very different rates
    e. Bear little relationship to each other

20. Banks can create money if they

    a. Can make loans
    b. Are regulated by a central bank such as the Federal Reserve
    c. Have debts which circulate as part of the money supply
    d. All of the above
    e. Only (a) and (c)

21. The empirically determined multiplier differs from the theoretical money multiplier because

    a. Theoretical tools never are accurate
    b. The economic system is more complex than the model which determines the theoretical multiplier
    c. Economists generally tend to overestimate when they make predictions
    d. Economists always overestimate when they make predictions
    e. Economic theory is normally useless anyway

22. If the reserve requirement is 20% and a commercial banking system has $100,000 of outstanding demand deposits and actual reserves of $35,000, the banking system can expand the supply of money by the maximum amount of:

    a. $15,000
    b. $75,000
    c. $125,000
    d. $175,000
    e. $300,000

ANSWER QUESTIONS 23 TO 27 ON BASIS OF THE FOLLOWING INFORMATION ABOUT ATSION METROPOLITAN BANK WITH A 25% RESERVE REQUIREMENT.

ASSETS		LIABILITIES & NET WORTH	
Office	$10	Demand Deposits	$400,000
Loans outstanding	$200,000	Capital Stock	$10
Deposits at FED	$50,000		
Cash	$100,000		
U.S. Bonds	$50,000		

23. Atsion Metropolitan Bank would have excess reserves of

    a. Zero
    b. $50,000
    c. $70,000
    d. $100,000
    e. $110,000

24. If $100,000 cash was deposited as a demand deposit at the bank, its excess reserves would be

    a. $75,000
    b. $125,000
    c. $170,000
    d. $175.000
    e. $200,000

25. If next (after the deposit of question 24) a $200,000 check was drawn against the bank, it would have excess reserves of

    a. Minus $75,000
    b. Minus $25,000
    c. Minus $10,000
    d. $25,000
    e. None of the above

26. If, after the transaction in question 25, the bank sold its U.S. Bonds to the Federal Reserve for cash, it could legally expand its loans by a maximum of

    a. Zero--it would still have excess reserves of minus $25,000
    b. $25,000
    c. $40,000
    d. $75,000
    e. None of the above

27. Atsion Metropolitan Bank, in question 26 above would be

    a. In sound financial state
    b. Bankrupt
    c. In violation of Federal Reserve regulations
    d. Bankrupt if any further withdrawals were made before it could recall some loans or receive additional deposits
    e. Both (b) and (c)

28. When the Fed decides to control the economy by reducing the reserve requirement

    a. The excess reserves of member banks are reduced
    b. Required reserves are changed into excess reserves
    c. The excess reserves of member banks are unchanged
    d. The lending ability of commercial banks is impaired
    e. Both (a) and (d)

29. The purpose of a tight money policy includes

    a. Increasing investment
    b. Increasing total spending
    c. Increasing bank reserves
    d. All of the above
    e. None of the above

30. Economically, consols are

    a. Any bonds with long maturities
    b. A bond which is never repaid but which pays a fixed nominal payment forever
    c. A very useful example of the determination of bond prices since the computation of consol prices is very simple
    d. All of the above
    e. Both (b) and (c)

31. In a simple economy with only demand deposits and no excess reserves, if bank reserves somehow increased by 20¢ and the reserve requirement is 1%, the money supply would increase by

    a. $ .02
    b. $1.57
    c. $2.00
    d. $20.00
    e. None of the above

32. Tools of the Federal Reserve include the power to

    a. Set limits to the federal debt
    b. Set usury rates in illegal loan markets such as loansharking
    c. Inspect federally subsidized housing for construction flaws
    d. Wiretap commercial bank phone lines
    e. None of the above

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM B
OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY--SELF-DIAGNOSTIC TEST FORM B

1. b
2. e
3. b
4. c
5. d
6. c
7. b
8. b
9. c
10. e
11. a
12. a
13. e
14. c
15. c
16. e
17. c
18. b
19. a
20. c
21. b
22. b
23. b
24. b
25. b
26. b
27. a
28. b
29. e
30. e
31. d
32. e

DO NOT REQUEST THE END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC TEST WITHOUT DIFFICULTY.

VI

A MORE COMPLETE KEYNESIAN MODEL

OVERVIEW

At the end of this unit, you should be able to demonstrate (1) an understanding of the Keynesian model and its applications, the theoretical analysis of price changes, and the monetary market; (2) an understanding of our macroeconomic tools and policies and their respective uses and goals; (3) knowledge of the history of the behavior of prices and income in the U.S., and efforts to alter these variables.

You should, then, be able to understand the factors which have historically caused inflation and unemployment in the United States. This understanding should include the ability to evaluate various government policies designed to combat inflation or unemployment.

Finally, you should be aware that there is a conspicuous absence of concrete proposals for solving the simultaneous existence of inflation and unemployment which has plagued the United States economy over recent years. This is a new economic problem and traditional Keynesian policies do not appear very effective for use against this problem. Economists must develop new policies to handle this problem.

PERFORMANCE OBJECTIVES

1. Predict the effect of money market equilibrium and disequilibrium situations on interest rates, bond sales, and the quantity of money supplied and demanded.
2. Demonstrate an understanding of the relationship between interest rates, money supply and demand curves, and bond sales by:

    a. Defining interest rates in terms of opportunity costs
    b. Defining the effect of the supply of money in terms of levels of income, interest rates, and bond sales
    c. Predicting the effects of interest rates on the slope of the demand for money function

3. Demonstrate an understanding of the behavior of interest rates, investment and bonds when liquidity or excess reserve traps exist by:

    a. Defining liquidity traps and excess reserves traps
    b. Evaluating the effectiveness of monetary policy as a discretionary tool, when such traps exist
    c. Predicting the effect of liquidity traps at low interest rate levels

4. Identify summary statements which describe the usefulness of Keynesian models.

5. Given a Keynesian model, determine:

    a. The relevant Keynesian multiplier
    b. The simple Keynesian multiplier
    c. The complex Keynesian multiplier
    d. Relationships between simple and complex multipliers, and correct equilibrium income levels

6. Apply Keynesian models to recommend or evaluate policy actions by the Federal Reserve System or the Federal Government.

7. Given information about inflation or deflation, predict the most likely causes or effects of the price changes.

8. Demonstrate an understanding of the effectiveness of wage and price controls by:

   a. Identifying summary statements as to why wage and price controls have been put into effect
   b. Identifying correct generalizations about the effectiveness of wage-price controls
   c. Defining repressed inflation in terms of wage-price controls

9. Determine the effect of a specific type of government intervention in inflationary or deflationary situations, and determine the appropriate corrective policy action in a specific inflationary or deflationary situation.

10. Demonstrate an understanding of inflation by:

    a. Defining cost-push inflation
    b. Identifying the purpose and actual usefulness of the Phillips curve
    c. Determining the type of inflation which exists in a given price/unemployment situation

11. Identify accurate summary statements of the history of price behavior in the U.S. and in other nations.

12. Demonstrate an understanding of relationships which exist in Keynesian economics by identifying
    a. Those relationships which comprise the Keynesian transmission mechanism
    b. The relationship between investment and changes in interest rates
    c. The effect of a decrease in the money supply by the Federal Reserve
    d. Relationships between interest rates, bond prices and investment
    e. Relationships between increases in the money supply and income levels, prices, and savings
    f. Relationships between increases in the money supply and bond prices, interest rates and investment
    g. The nature of a given equilibrium

SELF-DIAGNOSTIC TEST FORM A

1. If the demand and supply curves of money intersect above the interest rate, it will eventually

    a. Fall as the public continues to try to sell bonds
    b. Rise as the public continues to try to sell bonds
    c. Rise as the public continues to try to buy bonds
    d. Fall as the public continues to try to buy bonds
    e. None of the above

2. The interest rate is most appropriately deemed to be the opportunity cost of holding

    a. Cash balances
    b. Savings accounts
    c. Bonds
    d. Food reserves
    e. None of the above

GO ON TO NEXT PAGE

ANSWER QUESTIONS 3-8 ON THE BASIS OF THE FOLLOWING INFORMATION ABOUT A HYPOTHETICAL ECONOMY:

C (consumption function) = 100 + .9Y
G (government spending) = 200
T (taxes) = 100

The money market is in a state of equilibrium at an interest rate of 7%. The balanced budget multiplier is one, and the following investment schedule exists:

Interest rate	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%
Investment	1000	900	300	700	600	500	400	300	200	100	0

3. Equilibrium income in this model will be

   a. 600
   b. 700
   c. 5400
   d. 6100
   e. 8000

4. If the Federal Reserve increased the money supply and the new money market equilibrium was reached at an interest rate of 5%, the new equilibrium income level would be

   a. 800
   b. 900
   c. 7200
   d. 8100
   e. 9000

5. If, however, the full employment income happened to be 7000, the equilibrium income level, given the interest rate in Question 4, would be

   a. 800
   b. 7200
   c. 8100
   d. 9000
   e. None of the above

6. The relevant Keynesian multiplier for use in this model would be

   a. 0.8
   b. 0.9
   c. 9
   d. 10
   e. None of the above

7. Models such as the above are used

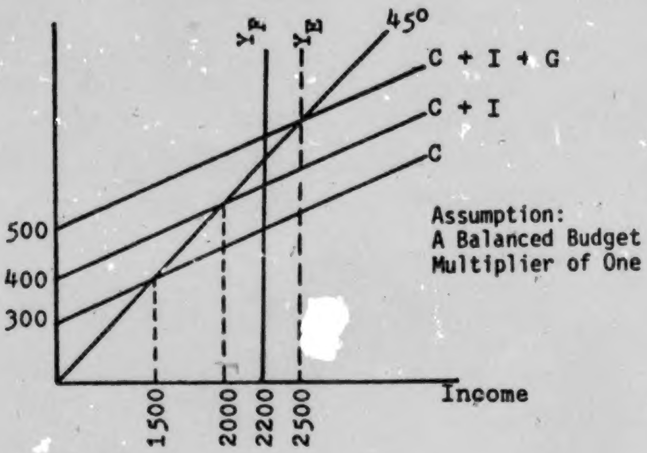
   a. To try to determine the result if the assumed characteristics held true in the economy in order that the operation of the economy might be better understood
   b. Because they are always accurate enough to tell how the actual U.S. economy will behave in the future
   c. Solely for experimental purposes
   d. Because most economies are unstable
   e. None of the above

8. In the model described above, the simple Keynesian multiplier

   a. Equals the complex Keynesian multiplier
   b. Equals the money multiplier
   c. Is smaller than the complex Keynesian multiplier
   d. Is larger than the complex Keynesian multiplier
   e. None of the above

GO ON TO NEXT PAGE

ANSWER QUESTIONS 9 AND 10 ON THE BASIS OF THE FOLLOWING MODEL:



9. If the government wanted to restore full employment, which of the following policies would be appropriate?

   a. A tax cut of 100 accompanied by a cut in government spending of 100
   b. A tax cut of 60
   c. A cut in government spending of 60
   d. All of the above
   e. None of the above

10. If, instead, it was decided to let the Federal Reserve restore full employment via monetary policy, which of the following policies would be appropriate?

   a. Sell a sufficient number of government bonds so that interest rates increase until investment is decreased by 50
   b. Buy sufficient government bonds so that interest rates increase until investment is decreased by 50
   c. Reduce reserve requirements until investment is decreased by 60
   d. All of the above
   e. None of the above

11. If prices were falling at 5% and unemployment were 10%, it would most likely be felt that the price change was caused by

    a. The actions of foreign nations
    b. Low quality of goods and services
    c. Inadequate aggregate demand
    d. Falling union wage rates
    e. None of the above

12. If prices were rising at 10% per year, and unemployment were 2%, it would probably be suspected that which of the following existed

    a. Cost-push inflation
    b. Demand-pull inflation
    c. Push-pull inflation
    d. Repressed inflation
    e. None of the above

13. The Phillips curve

    a. Describes the circular motion made by a Phillips screwdriver
    b. Was named after the inventor of the Phillips screw
    c. Is an ironclad relationship which never changes
    d. Shows the trade-off between cost-push and demand-pull inflation
    e. None of the above

14. If the Federal government wanted to use fiscal policy to try to stimulate the economy, it could

    a. Increase the money supply
    b. Lower the tax rate
    c. Decrease government spending
    d. All of the above
    e. Only (a) and (b) above

15. When potential GNP exceeds actual GNP

    a. Machines are being used at more than their optimal capacity
    b. The level of employment is above the optimal level
    c. We always have rising prices
    d. All of the above
    e. None of the above

16. Wage and price controls have generally been put into effect

    a. In an effort to increase aggregate demand
    b. Whenever unemployment has been high
    c. Whenever the President and Congress have felt like it
    d. When the authorities have felt that monetary and fiscal policies were not effective enough at controlling inflation
    e. None of the above

17. Inflation which is not fully anticipated benefits

    a. Debtors
    b. Life insurance holders
    c. Creditors
    d. The poor
    e. None of the above

18. Which of the following describes the transmission mechanism of monetary policy in a Keynesian model? (NOTE: arrows mean "lead to")

    a. Changes in the money supply → changes in the interest rate → changes in expectations regarding inflation → changes in output and employment
    b. Changes in the money supply directly → changes in investment
    c. Changes in monetary policy → changes in the interes rate → changes in consumer spending, output, and employment
    d. Changes in the money supply → changes in the interest rate → changes in investment which have a multiplier effect on income and employment
    e. None of the above

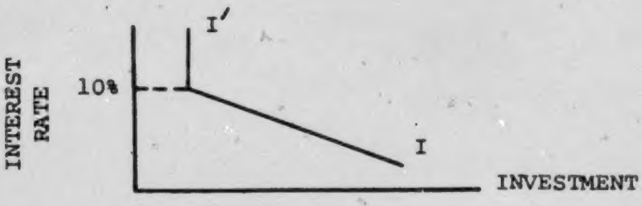
19. When interest rates fall

    a. The savings schedule shifts upward
    b. Bond prices and investment increase
    c. Bond prices and investment fall
    d. Bond prices fall and investment rises
    e. None of the above

20. If the Federal government wants to contract the economy it can

    a. Increase taxes and government spending equally
    b. Increase government spending more than taxes
    c. Increase government spending while leaving taxes unchanged
    d. All of the above
    e. None of the above

21. Given the situation illustrated in the following diagram,



and the interest rate rises to 10%, monetary policy will

    a. Become an extremely powerful contractionary tool
    b. Always cause rapid inflation
    c. Become a virtually useless contractionary tool
    d. Be of little use in curbing inflation
    e. Both (c) and (d)

22. Historically, prices in the U.S. have

    a. Normally been rising
    b. Risen and fallen rapidly but also at times remained relatively stable
    c. Normally been very stable
    d. Normally changed very gradually
    e. None of the above

23. During the decade of the 1960s
    a. The U.S. had the highest rate of inflation in the world
    b. The U.S. had the highest rate of inflation among developed nations
    c. The U.S. had the highest rate of inflation of any nation in North or South America
    d. Inflation rates among western nations were virtually identical
    e. None of the above

24. The use of wage-price controls in the past has led to
    a. Labor shortages
    b. Black markets
    c. Incentives to pay illegal wage increases
    d. All of the above
    e. Only (a) and (b)

25. The cost-push inflation theory
    a. Puts most of the blame for inflation on excessive aggregate expenditures
    b. Is the classical theory of inflation
    c. Sees unions as the sole source of inflation
    d. Both (a) and (b)
    e. None of the above

26. If an inflationary situation is correctly diagnosed as cost-push inflation
    a. Government policy makers may have a very difficult time supplying a remedy
    b. Government policy makers will not have much to do because the problem will soon correct itself
    c. Government policy makers should immediately apply traditional anti-inflationary policies
    d. A ten-day wage-price freeze should be imposed
    e. None of the above

27. If equilibrium income exceeds full-employment income by $50 billion and the relevant Keynesian multiplier is five, with a balanced budget multiplier of one, appropriate policies to restore full employment include

    a. A tax increase of $50 billion
    b. A tax increase of $40 billion
    c. A government spending cut of $50 billion
    d. Both (a) and (c)
    e. None of the above

28. A price decrease which is fully anticipated hurts

    a. Creditors
    b. Debtors
    c. Those with long-term contracts
    d. Both (a) and (c) above
    e. None of the above

29. The existence of low interest rates in the economy

    a. Makes bonds an attractive asset
    b. Makes speculators want to hold low levels of cash balances
    c. Makes bonds an unattractive asset
    d. Both (a) and (b)
    e. None of the above

30. If an excess reserves trap exists, it means that

    a. Banks have used up all their excess reserves and cannot lend out any more money regardless of how attractive interest rates become
    b. Banks have so many excess reserves they cannot afford to hold any more, but the Federal Reserve keeps selling government bonds
    c. Banks have so many excess reserves that they cannot afford to hold any more, but the Federal Reserve keeps buying government bonds
    d. Banks are unwilling to do anything with additional reserves they acquire other than simply holding them as excess reserves, so Federal Reserve expansionary policy won't work
    e. None of the above

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM A
OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. b
2. a
3. d
4. d
5. c
6. d
7. a
8 a
9 c
10. e
11. c
12. b
13. e
14. b
15. e
16. d
17. a
18. d
19. b
20. e
21. e
22. b
23. e
24. d
25. e
26. a
27. e
28. e
29. c
30. d

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook Reference: Roger Leroy Miller. Economics Today.
Canfield Press, 1973, pp. 252-278;
282-288

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	1	252-266	none	12	1
			294-302	12	2
2	2, 29	252-266	none	12	1
			294-302	12	2
3	21, 30	252-266	none	12	1
			294-302	12	2
4	7	252-266	none	12	1
			294-302	12	2
5	3-6,8	252-266	none	12	1
			294-302	12	2
6	9, 10, 14, 20, 27	252-266	none	12	1
			294-302	12	2
7	11, 17 28	271-272	303-307	12	3
8	16, 24	272-275	303-307	12	3
9	26	272-275	303-307	12	3
10	12, 13, 25	272-278, 282-288	303-307	12	3
11	22, 23	269-271	none	none	none
12	15, 18, 19	272-278	none	12	2 (Review)

SPECIFIC STUDY SUGGESTIONS

Since most of the Supplemental Materials for this unit are on audiotape, the following should be noted about Objectives 11 and 12, which are not on audiotape.

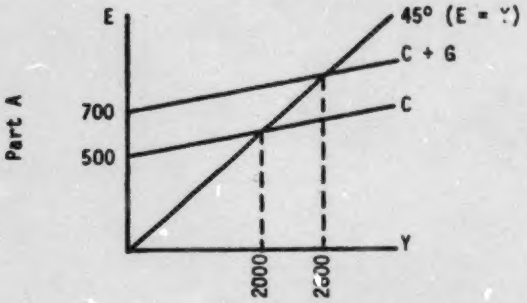
Objective 11. The material for this objective in the text should be quite self-explanatory. Therefore, the best way to learn this material is simply study this section of the text. It should be noted that contrary to popular opinion, the prices in the United States in recent years have not been rising more rapidly than prices in any other nation in the world. The purpose of this objective is for you to become familiar with the behavior of prices throughout the history of the United States and to compare the behavior of prices in the United States with prices in other nations in the world.

Objective 12. This objective does not require supplemental study guide material. The material presented in this and in previous units should have already given you the basic information needed for this objective. Your performance on these items on the self-diagnostic tests should tell you whether you are already capable of handling the performance objective or not. Remember to consult the Study Directory to find out which items test this objective. If you have had difficulty with performance objective 12, review the test items carefully.

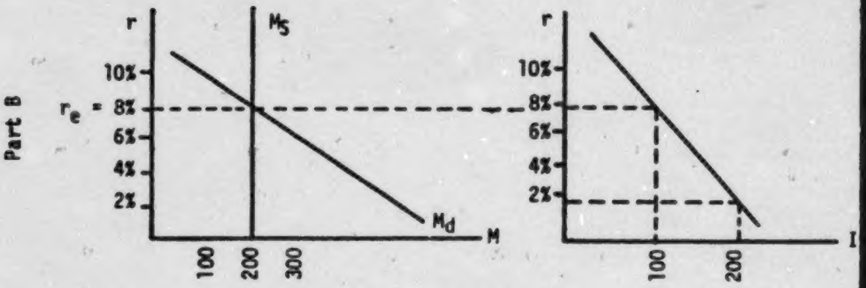
If you cannot determine by reviewing the test items why you are having difficulty, it is suggested that you review sections one and two of the taped material for this unit. This material should help you to better understand how the various sectors of the economy are interrelated and how various policy actions work their way through the various sectors of the economy.

SUPPLEMENTAL MATERIALS

The supplemental materials for this module have been recorded on cassette tape number 12. Diagrams to be used with this tape are in the Study Guide. The tape will direct you to the diagrams which are to be used with each section of the unit. It should also be noted that problems have been included in the Study Guide for this unit. These problems should be worked after Section 2.



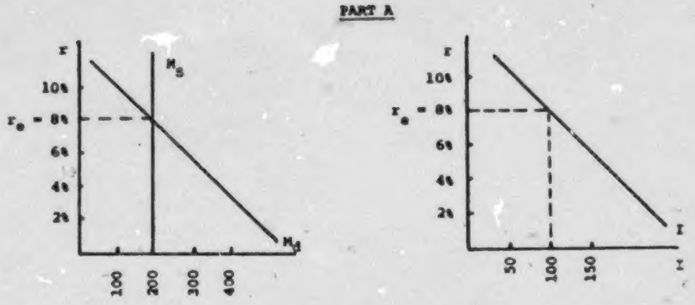
Part A: The Keynesian model without the money market or investment



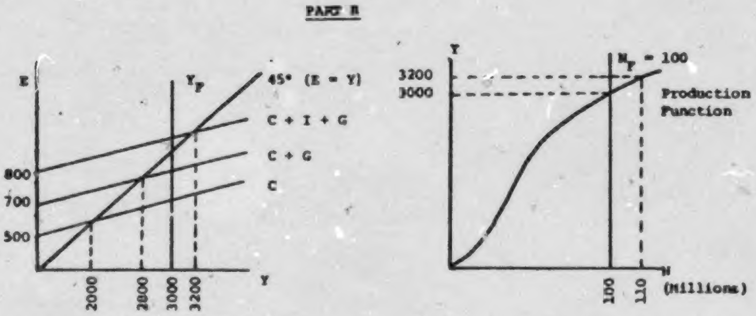
Part B: The money market and the investment function

Fig. 6-1: Adding the money market to the Keynesian model

(TO BE USED WITH SECTION 2 OF UNIT VI TAPES)



Part A: The basic model: the money market (left) and the investment function (right)

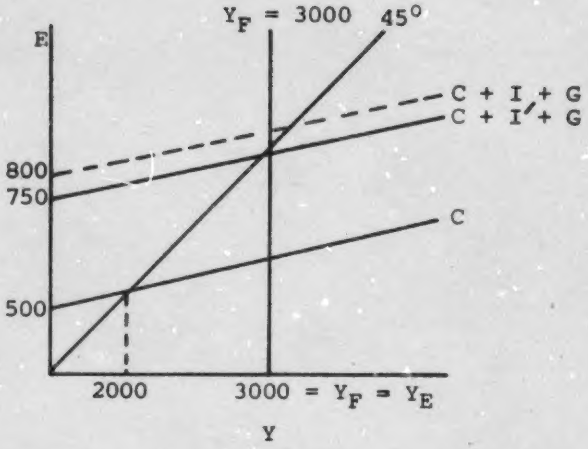


Part B: The goods market (left) and the production function (right)

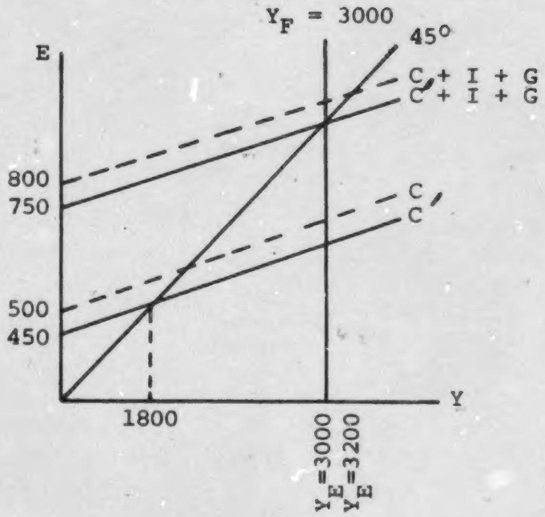
Fig. 6-2: A complete Keynesian model

(TO BE USED WITH SECTION 2 OF UNIT VI TAPES)

Case 1: Monetary and/or fiscal policies reducing government spending and investment



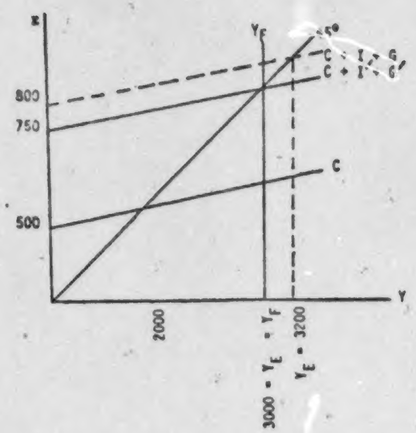
Case 2: Eliminating an over-employment gap via tax increases--assuming the balanced budget multiplier equals 1



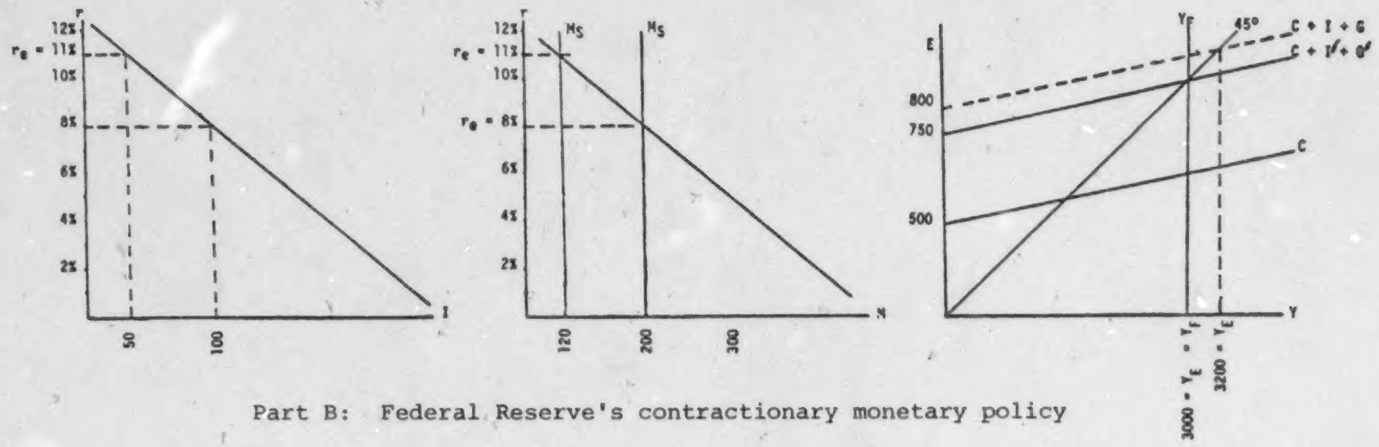
Part C: Some examples of alternative full employment solutions to the complete model

Fig. 6-2: A complete Keynesian model (continued)

(TO BE USED WITH SECTION 2 OF UNIT VI TAPES)



Part A: Reducing Government Spending

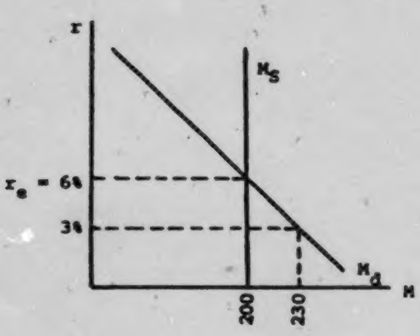


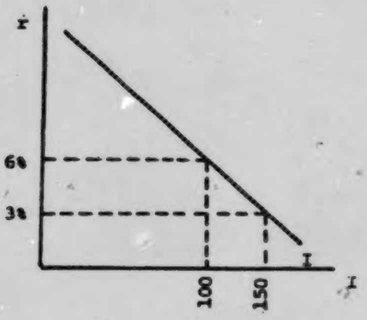
Part B: Federal Reserve's contractionary monetary policy

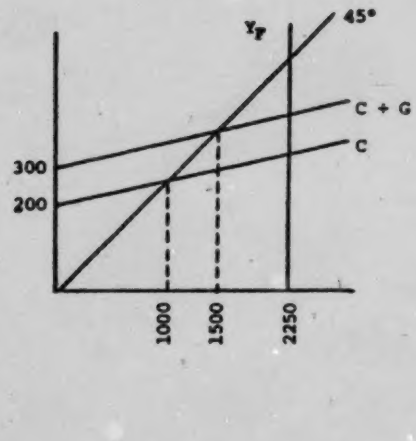
Fig. 6-3: Contractionary policy action

(TO BE USED WITH SECTION 2 OF UNIT VI TAPES)

PROBLEMS TO ACCOMPANY SECTION 2 OF THE TAPED MATERIALS FOR UNIT VI -- CONTINUED ON THE FOLLOWING PAGE







PROBLEMS TO ACCOMPANY SECTION 2 OF THE TAPED MATERIAL FOR UNIT VI. ANSWERS ARE GIVEN ON THE FOLLOWING PAGE.

1. What is equilibrium investment in this model?
2. What is equilibrium income?
3. What is the underemployment gap?
4. What is the multiplier?
5. How much must investment increase to restore full employment?
    a. If the Fed chose to increase the money supply sufficiently to increase investment enough to restore full employment, how large of an increase in the money supply would be needed?
    b. If the money multiplier was 3, how much would the Fed have to increase the monetary base?
6. If the Fed did not act (i.e., M remained unchanged at 200) how much would government spending have to increase to restore full employment?
    a. If the balanced budget multiplier was one, how much would taxes have to be reduced to restore full employment?
    b. What would the tax multiplier be?

ANSWERS TO PROBLEMS 1-6 ON THE PRECEDING PAGE

1. 100

2. 2000

3. 250

4. 5

5. 50

5a. 30

5b. 10

6. 50

6a. 62.5

6b. 4

GO ON TO THE NEXT PAGE.

ADDITIONAL PROBLEMS TO ACCOMPANY SECTION 2 OF THE TAPED MATERIAL FOR UNIT VI. ANSWERS GIVEN ON THE FOLLOWING PAGE.

ANSWER QUESTIONS 7-15 ON THE BASIS OF THE FOLLOWING KEYNESIAN MODEL:

$C = 100 + .75Y$
$I = 100$
$G = 200$
$T = 100$
Balanced Budget Multiplier = 1

7. The Keynesian multiplier would be ________________.

8. The tax multiplier would be ________________

9. Is the Keynesian multiplier simple or complex?

10. Equilibrium income would be ________________.

11. If full employment income were 900, how large of an overemployment gap would exist?

12. If the Fed contracted the money supply sufficiently so that I fell to 50, would full employment be restored?

    a. How much of a tax increase would now be needed to restore full employment?

    b. If, instead of the tax increase, the government cut its spending, how much would the cut be if full employment were to be restored?

13. If the entire 400 gap were to be eliminated by monetary policy, what would investment be?

14. If the entire 400 gap were to be eliminated by tax increases, what would total taxes be?

15. If the entire 400 gap were to be eliminated by government spending cuts, what would G be?

ANSWERS TO EXERCISES 7-15 ON THE PRECEDING PAGE:

7. 4

8. 3

9. Simple

10. 1300

11. 400

12. No, an overemployment gap of 200 would still exist

12a. 66 2/3 approximately

12b. 50

13. Zero

14. 233 1/3 approximately

15. 100

END OF SUPPLEMENTAL MATERIAL FOR SECTION 2

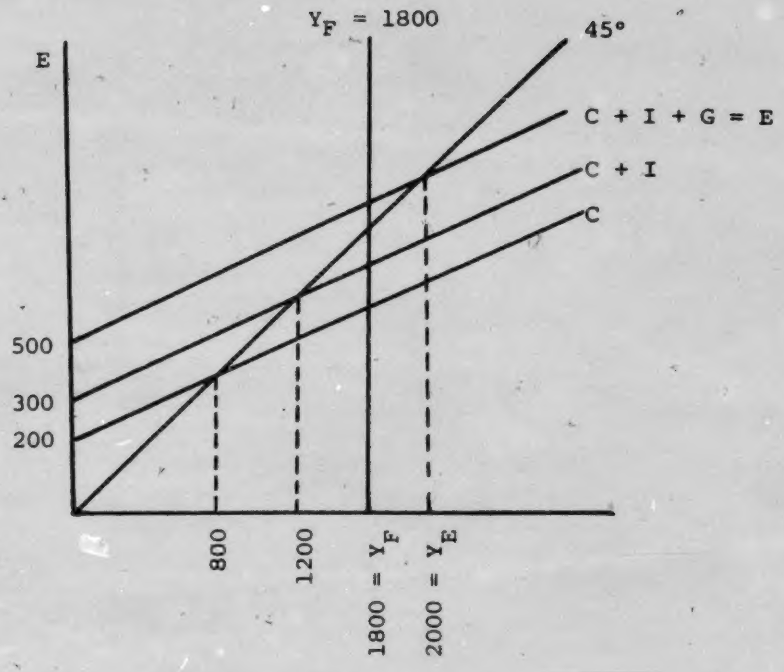
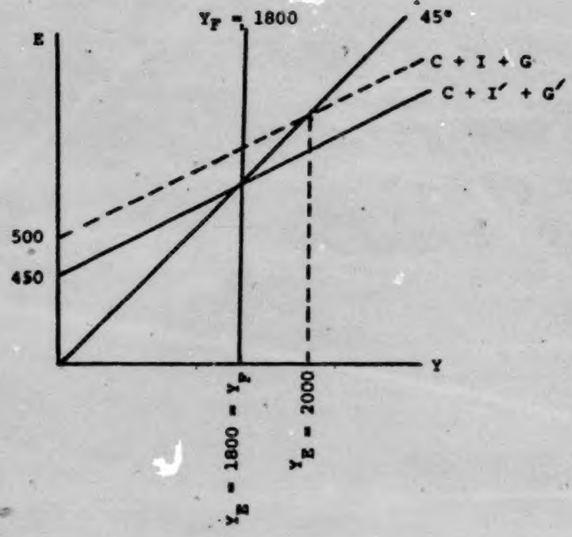
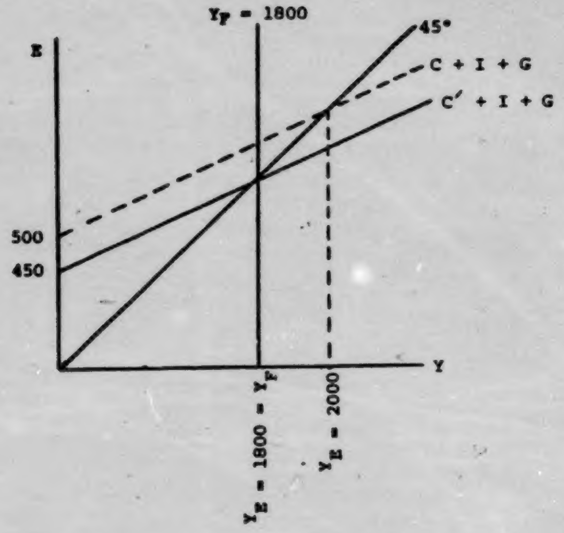


Fig. 6-4: Demand-pull inflation--an overemployment gap of 200 exists. Equilibrium income (2000) exceeds the full employment income (1800) by 200.

(TO BE USED WITH SECTION 3 OF UNIT VI TAPES)



Part A. Cutting government spending or contractionary monetary policy to cut investment



Part B. Tax increases to cut consumption

Fig. 6-5: Traditional anti-inflation policies

(TO BE USED WITH SECTION 3 OF UNIT VI TAPES)

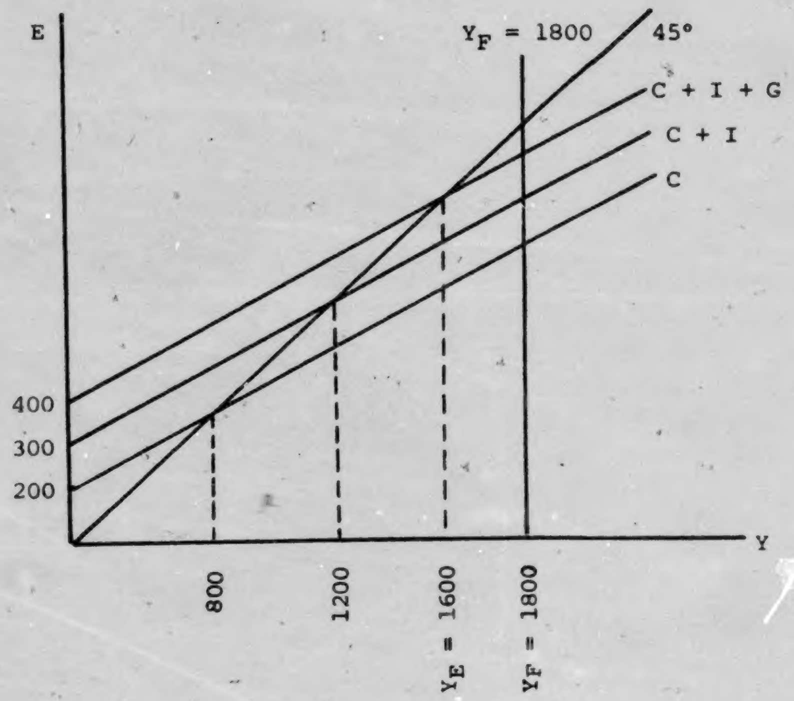


Fig. 6-6: Cost-push inflation--an underemployment gap of 200 exists. The full employment income (1800) exceeds the equilibrium income (1600) by 200. Yet, for some reason, prices are rising, not falling.

(TO BE USED WITH SECTION 3 OF UNIT VI TAPES)

TABLE 6-1: SOME POTENTIAL CAUSES OF COST-PUSH INFLATION

Source of Inflation	Action
1. Powerful Labor Unions	Excessive Wage Demands
2. Powerful Large Corporations	Excessive Price Increases
3. Powerful Raw Material Owners	Excessive Price Increases

(TO BE USED WITH SECTION 3 OF UNIT VI TAPES)

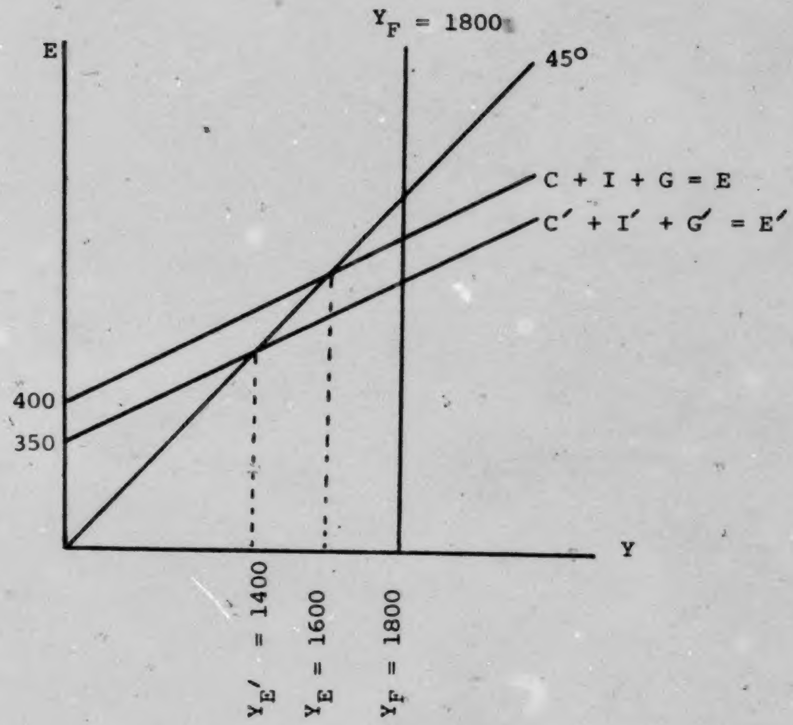


Fig. 6-7: Contractionary economic policies attempted against cost-push inflation

(TO BE USED WITH SECTION 3 OF UNIT VI TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

1. If the supply and demand curves of money intersect below the existing interest rate, there is

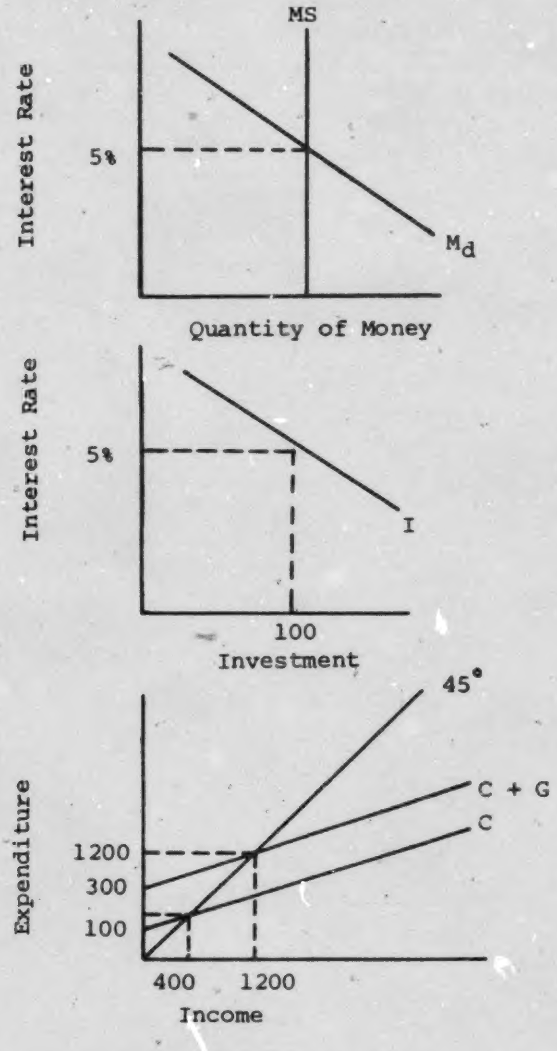
   a. A desire on the part of the public to buy bonds
   b. A desire on the part of the public to sell bonds
   c. An excess quantity of money demanded
   d. Both (b) and (c)
   e. None of the above

2. In the simplified analysis presented in this unit, the supply of money is a function of the level of

   a. Income
   b. Interest rates
   c. Bond prices
   d. All of the above
   e. None of the above

(GO ON TO NEXT PAGE)

ANSWER QUESTIONS 3 TO 8 ON THE BASIS OF THE FOLLOWING INFORMATION.



3. Equilibrium income in this model would be

a. 1200
b. 1300
c. 1600
d. 1700
e. 2000

4. If the Federal Reserve doubled the money supply by buying bonds from commercial banks, and an EXCESS RESERVES TRAP existed, the equilibrium income would be

   a. 1200
   b. 1400
   c. 1600
   d. 2000
   e. 3200

5. If the investors (given the original money supply) decided to invest twice as much at every interest rate, equilibrium income would be

   a. 1200
   b. 1400
   c. 2000
   d. 2400
   e. 4200

6. In this model, the Keynesian multiplier will be

   a. 3
   b. 3.25
   c. 4
   d. 5
   e. 2.5

7. Models such as this

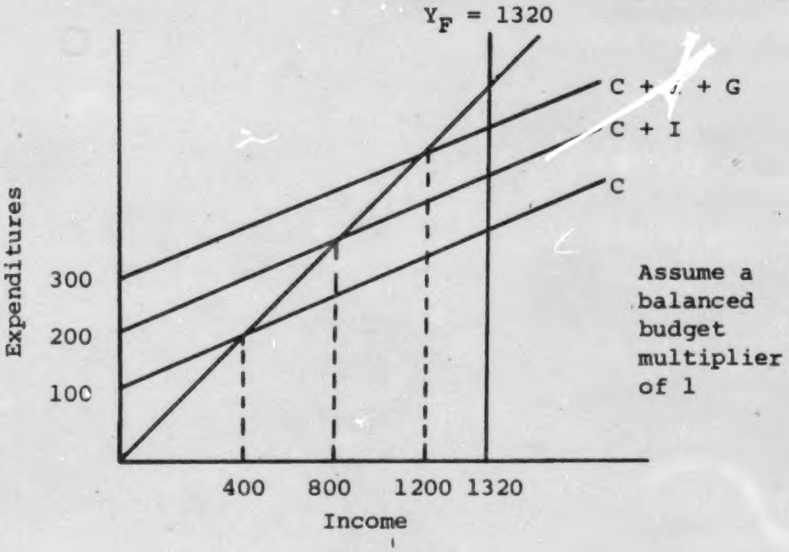
   a. Give us complete understanding of the way the economy functions
   b. Only use quadratic equations
   c. Are so new that we do not really know if they will work
   d. Are actually rather worthless
   e. None of the above

8. In this model

   a. The simple Keynesian multiplier is identical with the complex Keynesian multiplier
   b. The complex Keynesian multiplier is different from the simple Keynesian multiplier
   c. The money multiplier is identical with the simple Keynesian multiplier
   d. All of the above
   e. None of the above

GO ON TO NEXT PAGE

ANSWER QUESTIONS 9 and 10 ON THE BASIS OF THE FOLLOWING MODEL.



9. If the government wanted to restore full employment, which of the following policies would be appropriate?

   a. A tax increase of 40
   b. A tax increase of 30
   c. A decrease in government spending of 40
   d. Both (b) and (c) above
   e. None of the above is an appropriate policy

10. If the Federal Reserve wanted to restore full employment, which of the following policies would be appropriate?

   a. Sale of sufficient government bonds to decrease the interest rate so investment would be increased by 40
   b. Raising discount rates sufficiently to decrease the interest rate sufficiently so that investment would be increased by 120
   c. Sale of sufficient government bonds to decrease the interest rate sufficiently so that investment would be increased by 120
   d. Both (a) and (b) above
   e. None of the above

11. If prices are rising at 15% per year and unemployment is at 1.8%, the most likely cause of the inflation would be

    a. The factors presented in the permanent income hypothesis
    b. Excess demand
    c. Production well below full employment
    d. A major war between the U.S. and Albania
    e. The factors presented in the push-pull inflation hypothesis

12. If prices are rising at 12% per year and there is 8% unemployment, we would most likely suspect

    a. Cost-push inflation
    b. Repressed inflation
    c. Demand-pull inflation
    d. Classical inflation
    e. None of the above

13. Empirical studies of the Phillips curve have shown that

    a. It is an extremely accurate tool for making long-run predictions over time
    b. It describes the handle of a Phillips screwdriver in rotation while in use
    c. If it does exist, it moves around over time
    d. It varies inversely with beer sales
    e. None of the above

14. If the federal government wanted to use fiscal policy to try to stimulate the economy, it could

    a. Increase the money supply
    b. Lower the tax rate
    c. Increase government spending
    d. All of the above
    e. Only (b) and (c)

15. When actual GNP exceeds potential GNP

    a. Machines are being used at more than their optimal capacity
    b. The level of employment is above the optimal level
    c. We usually, if not always, have rising prices
    d. All of the above
    e. None of the above--actual GNP cannot exceed potential GNP

16. The experience with wage-price controls under the Nixon administration shows that

    a. Wage-price controls can never work
    b. Wage-price controls are a bad idea in theory but always work well
    c. Prices always have and always will rise
    d. All of the above
    e. None of the above

17. Inflation which is completely anticipated, benefits

    a. Debtors
    b. Life insurance holders
    c. Unions
    d. Creditors
    e. None of the above

18. The responsiveness of investment to changes in the interest rate

    a. Is of no importance in determining the effectiveness of monetary policy
    b. Tells us how much investment will increase if income increases
    c. Partially determines the effectiveness of any given change in the money supply
    d. Is a phenomenon which has never been investigated empirically or analyzed theoretically
    e. None of the above

19. When the money supply increases

    a. The income level of the nation falls
    b. Prices always rise
    c. Savings always fall
    d. All of the above
    e. None of the above

20. If the Federal Reserve wants to stimulate the economy, it can

    a. Buy government bonds, reduce the reserve requirement and reduce the discount rate
    b. Buy government bonds and reduce the discount rate
    c. Buy government bonds and reduce the reserve requirement
    d. Sell government bonds
    e. (a), (b), and (c) above

21. The liquidity trap is a situation in which

    a. Banks are too short of excess reserves to lend out any more money
    b. Most banks are virtually "loaned up"
    c. The demand for money function becomes vertical
    d. The demand for money becomes almost infinite at the prevailing interest rate
    e. Both (a) and (b)

22. In the history of the United States, prices have

    a. Risen rapidly and also fallen, but prices have never decreased faster than 2% per year
    b. Have followed a general downward trend for 25 years or longer
    c. Have followed a general upward trend for 25 years or longer
    d. Have always risen and never fallen
    e. Both (b) and (c)

23. Over the decade of the 1960s, prices in the U.S.

    a. Averaged out to be virtually constant
    b. Rose at a rate approximately equal to 0.25% per year
    c. Rose at a rate approximately equal to 2.5% per year
    d. Rose at a rate approximately equal to 25% per year
    e. Rose at a rate approximately equal to 250% per year

24. Historically, wage-price controls

    a. Were first developed during World War II
    b. Have existed for thousands of years
    c. Have been tried only in the United States
    d. Both (a) and (c)
    e. None of the above

25. Demand-pull inflation theory

    a. Is the classical inflation theory
    b. Puts most of the blame for inflation on excessive aggregate expenditures
    c. Could, according to Keynesian economics, be alleviated by traditional monetary or fiscal policies
    d. All of the above
    e. None of the above

26. If an inflationary situation is correctly diagnosed as demand-pull inflation, appropriate corrective policy action would include

    a. Contractionary fiscal policy but not contractionary monetary policy
    b. Contractionary monetary policy but not contractionary fiscal policy
    c. Contractionary monetary and/or contractionary fiscal policy
    d. Expansionary monetary and/or expansionary fiscal policy
    e. None of the above

27. Given an equilibrium income $50 billion *above* the full employment income level, a Keynesian multiplier of 5, and a balanced budget multiplier of 1, appropriate policies to restore full employment would include

    a. A tax increase of $12.5 billion
    b. A government spending cut of $10 billion
    c. A cut in government spending of $50 billion, accompanied by a tax cut of $50 billion
    d. All of the above
    e. None of the above

28. A price *decrease* which is *not* fully anticipated benefits

    a. Those on fixed nominal incomes
    b. Those on fixed real incomes
    c. Creditors
    d. Debtors
    e. Both (a) and (c)

29. If the Federal Reserve is increasing the money supply at the same time as the demand for money is increasing

    a. Interest rates will rise
    b. Interest rates will fall
    c. Interest rates will remain unchanged
    d. The discount rate will determine the interest rate
    e. None of the above is *necessarily* a correct answer

30. If a liquidity trap exists at very low levels of interest rates

   a. No one will want to buy any more bonds at those interest rates
   b. The high probability of capital gains pulls huge amounts of funds into the market to buy bonds, swamping the market
   c. The money supply increases rapidly since the Federal Reserve no longer can control it
   d. Both (b) and (c) above
   e. None of the above

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM B

1. a
2. e
3. c
4. c
5. c
6. c
7. e
8. a
9. e
10. e
11. b
12. a
13. c
14. e
15. d
16. e
17. e
18. c
19. e
20. e
21. d
22. e
23. c
24. b
25. d
26. c
27. d
28. e
29. e
30. a

DO NOT REQUEST THE END-OF-UNIT TEST UNTIL YOU CAN ANSWER ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC TEST WITHOUT ANY DIFFICULTY

VII

THE MONETARIST CHALLENGE TO KEYNESIAN ECONOMICS

OVERVIEW

Upon completion of this unit, you should be able to demonstrate an understanding of (1) the theoretical debate between monetarists and Keynesians; (2) implications, limitations and empirical evidence of each school; (3) the role of the government in each of the above schools; and (4) policy implications and extensions of each of the basic viewpoints.

Perhaps most important, you should be aware of the significance of this debate. The economy is a complex system; experimentation with this system is difficult (and of questionable morality--people's existences are involved). Thus the debate is, if for no other reason, important in that it reveals that our understanding of the economy is still far from perfect. Experts still disagree as to exactly how the economy behaves.

PERFORMANCE OBJECTIVES

1. Identify monetarist criticisms of Keynesian economics and Keynesian countercritiques of these criticisms.

2. Distinguish between monetarist and Keynesian positions regarding the use and effectiveness of discretionary and fiscal policies.

3. Identify logically consistent conclusions as to who is winning the monetarist vs. Keynesian debate.

4. Identify operational relationships in and/or solve Cambridge and classical Equation of Exchange models.

5. Identify the monetarists' position regarding the Phillips curve analysis.

6. Demonstrate an understanding of the distinction between monetarist and Keynesian economic thought and the policy implications of the two viewpoints by:

    a. Identifying the main issues on which the two differ
    b. Determining the position(s) of each group regarding the monetary rule
    c. Predicting the attitude of each school toward each of the following:

        (1) Government fiscal policies
        (2) Financing deficit spending by bond sales
        (3) Monetary policies

    d. Identifying the reasons why each school would support or oppose a specific fiscal or monetary policy

7. Critique the monetary rule or the Friedman or Keynesian position regarding the rule or related issues.

8. Demonstrate an understanding of monetarist viewpoints regarding inflation by:

    a. Identifying monetarist positions regarding demand-pull inflation
    b. Identifying components of the monetarist theory of an inflationary recession
    c. Identifying components of the monetarist position regarding wage-price controls

9. Identify either Keynesian and/or monetarist positions regarding the mechanism by which the effects of monetary policy are transmitted to other parts of the economy.

SELF-DIAGNOSTIC TEST FORM A

1. Friedman and some other monetarists advocate expanding the money supply at a steady rate because

    a. Of the risk of push-pull inflation cycles
    b. Contractionary monetary policy can cause unemployment to increase and is thus morally unacceptable
    c. Of the risk that monetary policy hurts the economy more than it helps because of our imperfect knowledge
    d. All of the above
    e. None of the above

2. The Friedman vs. the Keynesian debate over a monetary rule

    a. Appears to be one instance where the minority (Friedman's side) has clearly been proven correct
    b. Appears to be a clearcut victory for the Keynesians
    c. Has made all monetarists seem incompetent
    d. Will remain unresolved until extensive research answers numerous unresolved issues that have arisen in the course of the debate
    e. Has by now been shown to have been virtually a waste of time and money; the issue of who is correct is no longer of interest

3. In the complete monetarist transmission mechanism for changes in the money supply

    a. Interest rates play the most important role
    b. A change in the money supply leads to a change in desired expenditures and also a small change in interest rates
    c. Interest rates change, altering investment (which then has a multiplier effect on income)
    d. Only (a) and (c) above
    e. None of the above

4. The monetarists' theory of an inflationary recession

   a. Does not include any long run trade-off between inflation and unemployment
   b. Sees the long run Philips curve as a horizontal line
   c. Contends that expectations as to price behavior are formed on the basis of at least several years experience and take time to change
   d. All of the above
   e. Only (a) and (c)

5. If M = the money supply; V = the velocity of circulation of money; Q = the quantity of REAL OUTPUT; and P = the average PRICE LEVEL; then the classical equation of exchange is expressed as:

   a. $MV = PQ$
   b. $Q/V = MP$
   c. $MQ = VP$
   d. $QV = MP$
   e. None of the above

6. In a simplified Cambridge model, if the money supply is increased,

   a. People will have too many cash balances and will increase their spending
   b. Output of goods and services will increase
   c. Employment will increase
   d. All of the above
   e. None of the above

7. Monetarists generally disagree with Keynesian economists because they:

   a. Believe all Keynesian economists are incompetent
   b. Disagree with some of the theoretical aspects and policy recommendations of Keynesian economics
   c. Feel that modern Keynesian economics sees no role for monetary policy
   d. All of the above
   e. Only (b) and (c)

8. Friedman and some monetarists believe that we should not use discretionary monetary policy because

   a. A little knowledge is a dangerous thing
   b. The relationship between money, national income, and prices is exact
   c. One organization like the Federal Reserve should not be this powerful
   d. There are limits to our knowledge and we never know how long this monetary policy may take to have an effect on the economy
   e. None of the above

9. According to the monetarists, a tax cut leads to an increase in:

   a. The government surplus
   b. Government spending
   c. Gross national product
   d. Cash balances
   e. None of the above

10. It presently appears that the debate between the monetarists and the Keynesians

    a. Will likely end up in a compromise
    b. Will result in a clear-cut victory by the Keynesians
    c. Will result in a clear-cut victory by the monetarists
    d. Is really irrelevant--the issues are no longer important
    e. Will be resolved in the upcoming year one way or the other

11. Keynesians--using a truly complete Keynesian model--feel that an increased amount of government spending will increase income:

    a. Directly
    b. Indirectly as consumption increases
    c. Indirectly as investment increases
    d. All of the above
    e. Only (a) and (b) above

12. Monetarists feel that the Phillips curve

    a. Is a very useful tool for purposes of economic policy
    b. Realistically describes the relationship between inflation and unemployment
    c. Is another demonstration of the insight that can be used by applying such tools of monetarist economics instead of using less sophisticated Keynesian tools
    d. All of the above
    e. None of the above

13. Keynesian economists feel that monetarists' criticisms of Keynesian economics are:

    a. Mainly based on misinterpretations of Keynesian economics
    b. Libelous attempts to discredit established professionals
    c. Primarily due to the incompetence of most monetarists
    d. All of the above
    e. None of the above

14. The Keynesian countercritique of the monetary rule includes which of the following?

    a. Expanding the money supply at a constant rate unnecessarily does away with a potentially powerful economic policy tool
    b. Money is, after all, primarily a medium of exchange, and really is not important to the economy other than as a medium of exchange
    c. The monetarist empirical evidence is inaccurate, poorly collected, and statistically very sloppy
    d. All of the above
    e. None of the above

15. The monetarist criticism of Keynesian economics attacks which of the following components of Keynesian economics?

    a. That changing interest rates change bond prices
    b. That interest rates have any influence on the demand for money
    c. That monetary policy affects the goods sector of the economy primarily through effects induced by changes in the interest rate
    d. All of the above
    e. None of the above

16. The monetarists believe that the wage-price controls instituted by the Nixon administration

    a. Saved us from a hyperinflation
    b. Were much more successful than Keynesians are willing to admit
    c. Could have been a useful method of slowing the inflation rate if properly used
    d. Could never have worked because wage-price freezes can never work
    e. None of the above

17. The monetarist transmission mechanism implies that an increase in the money supply will not increase which of the following?

    a. Prices and/or nominal income
    b. Automobile sales
    c. The demand for bonds
    d. Used automobile sales
    e. None of the above

18. Monetarists believe that if there were any changes in economic activity because of the 1964 tax cut, these changes came about primarily as a result of:

    a. The ensuing increase in investment
    b. The disguised monetary effects of the tax cut
    c. The multiplier effect
    d. An upward shift in the C+I+G schedule
    e. None of the above

19. According to the classical equation of exchange, a decrease in the money supply would cause an equal decrease in the price level because

    a. The price level is the only variable left to change
    b. Income and velocity were assumed constant in the short run
    c. The supply of money was believed to effect the goods sector of the economy only by increasing employment and thus inflation
    d. All of the above
    e. Only (a) and (b) above

20. Those opposed to the monetary rule include:

    a. Most Keynesians, some monetarists, and most Federal Reserve officials
    b. Only Federal Reserve officials and Keynesians
    c. Only Federal Reserve officials and monetarists
    d. Only Federal Reserve officials
    e. Only Keynesians

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM A OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. c
2. d
3. b
4. e
5. a
6. a
7. b
8. d
9. e
10. a
11. d
12. e
13. a
14. a
15. c
16. c
17. e
18. b
19. e
20. a

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook Reference: Roger Leroy Miller, Economics Today. Canfield Press, 1973, Review pp. 269-278; Read pp. 291-315.

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	7,13,14, 15	294-295	340	13	2
		310	343	13	4
2	9	272-275 307-308	340	13	2
		313-315	343	13	4
3	10	311	340	13	2
4	5,6,19	273 291-294	335-339	13	1
5	12	275-277 299-302	340	13	2
6	11,18,20	309-311	340	13	2
			343	13	4
7	1,2,8	298-299	340	13	2
8	4,16	296-298	340	13	2
9	3,17	295-296	340	13	2
		310	341-342	13	3

SUPPLEMENTAL MATERIALS

As in preceeding units, the supplemental materials for Unit VII have been recorded on audiotape number 13. Diagrams to be used with this tape begin on the following page. The tape will direct you to the appropriate diagrams for each segment of the tape.

TABLE 7-1: THE CLASSICAL EQUATION OF EXCHANGE

The Classical Equation of Exchange: $MV = PQ$
where:

M = The Money Supply
V = The Velocity of Money
P = The Price Level
Q = Real Income (or Real Output)

and: V and Q are believed to be constant in the short run

(TO BE USED WITH SECTION I)

PROBLEMS TO ACCOMPANY TABLE 7-1, THE CLASSICAL EQUATION OF EXCHANGE.

1. Given the following:
   M = $5000
   V = 4
   Q = $1000

   a. What is the price level? __________

   b. What is nominal income? __________

   c. What would happen to the price level if the money supply increased to $6000? ____________

   ____

2. Given the following:
   M = $2000
   V = 2
   P = 8
   Q = $500

   a. What would happen if the money supply decreased to $1000? ______________________________

   b. What would happen if the money supply increased to $3000? ______________________________

ANSWERS TO THE PROBLEMS TO ACCOMPANY TABLE 7-1.

1. a. 20. Since MV = \$5,000 x 4 = \$20,000, PQ must also equal \$20,000. Since Q = \$1000, P must then = 20. That is: \$20,000 = \$1000P and 20 = P.

   b. \$20,000. Nominal income = P x Q or 20 x \$1000

   c. It would increase to 24. MV = \$6000 x 4 = \$24,000. Since V or Q cannot change and MV = PQ then P must.

2. a. P would decrease to 4. MV = PQ
   MV = \$1000 x 2 = \$2000
   \$2000 = \$500 P
   4 = P.

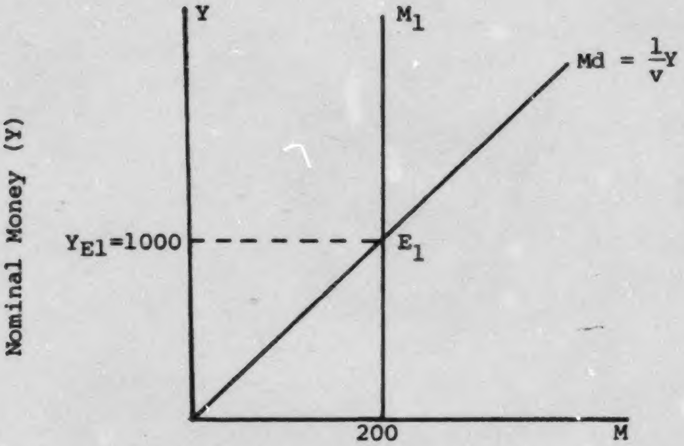
   b. P would increase to 12
   MV = PQ
   MV = \$3000 x 2 = \$6000
   \$6000 = \$500P
   12 = P.

TABLE 7-2: THE CAMBRIDGE EQUATION

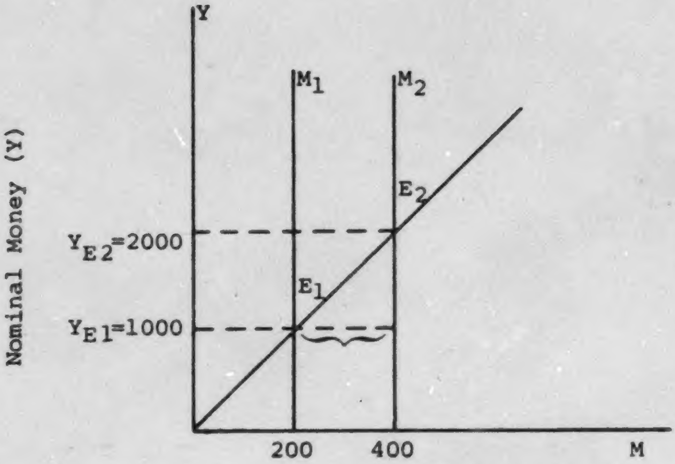
The Cambridge Equation: $M_d = 1/v\ PQ$

Where: M_d = The Demand for Money
V = The Velocity of Money
P = The Price Level
Q = Real Income (or Real Output)

(TO BE USED WITH SECTION I OF UNIT VII TAPES)



PART A: A graphical version of the Cambridge Model



PART B: Increasing the money supply in a Cambridge Model

Fig. 7-1. A Cambridge Economic Model

(TO BE USED WITH SECTION I)

TABLE 7-3

COMPONENTS OF THE MONETARIST DEMAND FOR MONEY FUNCTION

Variable	Explanation
Nominal Income	Determines purchasing power (i.e., The Budget Constraint).
The Rate of Return on Assets other than money	Determines the gains in future purchasing power we forego by holding money.
The Rate of Inflation	Determines the depreciation in purchasing power we suffer by holding money.

*This function could be presented mathematically, but the function is quite complex and beyond the level of this course.

(TO BE USED WITH SECTION 2 OF UNIT VII TAPES)

TABLE 7-4

THE MONETARIST VS. KEYNESIAN DEBATE OVER THE TRANSMISSION MECHANISM. THE EXAMPLE OF AN INCREASE IN THE MONEY SUPPLY.

PART I: The Monetarist Version

A. It is not simply spending on investment which increases: spending on a wide variety of assets increases.

1. People buy more bonds and other financial assets.
2. People buy more nonfinancial assets such as capital equipment.
3. People buy more consumer goods (which are also in a sense assets).

B. Interest rates may decrease somewhat initially.

1. Any decrease in interest rate will be smaller than Keynesians predict. (Only a part of the monetary increase will be spent in bonds.)

2. If inflation sets in, interest rates will start to rise as lenders add inflationary premiums to the interest rates they charge.

C. The Keynesian transmission mechanism places too much emphasis on the bond market, changes in interest rates, and induced changes in investment.

(TO BE USED WITH SECTION 3 OF THE UNIT VII TAPES)

TABLE 7-4: Continued

Part II: THE KEYNESIAN VERSION OF THE TRANSMISSION MECHANISM (AND REPLY TO THE MONETARISTS)

A. Keynesians use bonds to illustrate the effects of monetary policy as a convenient example of the transmission process.

  1. Modern Keynesians restrict the analysis to bonds primarily in introductory economics courses.

  2. Sophisticated Keynesian models recognize that changes in the money supply affect many other variables.

B. Monetarists too often ignore the question of how money gets into the economy.

  1. The Fed usually initiates the monetary expansion process by buying bonds--this itself significantly effects the bond market.

  2. Friedman's contention that it does not matter how the money enters the economy is more simplistic than Keynesian analysis.

C. The monetarists are confusing real and nominal interest rates.

  1. If inflation sets in and interest rates rise, it is the NOMINAL interest rate which is rising.

  2. Investment decisions are based on the REAL interest rate, not the NOMINAL INTEREST RATE.

(TO BE USED WITH SECTION 3 OF UNIT VII TAPES)

TABLE 7-5

SUMMARY OF MONETARIST AND KEYNESIAN POSITIONS REGARDING MONETARY AND FISCAL POLICY

	Keynesians	Monetarists
Fiscal Policy	1. An increase in government spending will have a multiple effect on income and employment. 2. Tax cuts will also have a multiple, but smaller, effect on income and employment. 3. The balanced budget multiplier is approximately one. 4. Fiscal policy is an effective tool for controlling the economy.	1. Increases in government spending will have little effect on income or employment. 2. Tax cuts will have very little effect on income and employment. 3. The balanced budget multiplier is approximately zero. 4. Fiscal policy effects the economy only if it indirectly has a disguised monetary effect. It is an unwarranted government interference with the economic system.
Monetary Policy	1. Monetary policy is a useful policy tool--it can effect the level of economic activity. 2. At times, however, the economic situation can be such that monetary policy does not work.	1. One group: Monetary policy is a useful policy and can be used to control the economy. 2. The Friedman group: Monetary policy affects the economy but is useless as a policy tool. We cannot predict how long it will take to have effect well enough to use it.

(TO BE USED WITH SECTION 4 OF UNIT VII TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

1. Friedman and some monetarists want a law passed which abolishes discretionary monetary policy and requires the monetary supply to be expanded at a constant annual rate because they believe:

    a. Inflation is really helpful, rather than harmful, to society
    b. No one has any idea of how monetary policy affects the economy
    c. That discretionary monetary policy in the past has done more to cause than to eliminate business cycles
    d. Any economist who would work for the Fed is obviously too incompetent to conduct discretionary monetary policy
    e. None of the above

2. Keynesian economists contend that the data Friedman uses to support his case for a monetary rule:

    a. Was fraudulently manipulated so as to obtain the results he wanted
    b. Is so full of errors and omissions that it is almost useless
    c. More likely reveals a cause and effect sequence, the reverse of that postulated by Friedman
    d. Does more to prove that *money doesn't matter* than anything else
    e. None of the above

3. The complete monetarist transmission mechanism

    a. Is really just a disguised version of the old Cambridge equation
    b. Indicates that changes in the money supply result in changes in expenditures for a wide spectrum of assets, goods, and services
    c. Places a much smaller emphasis on interest rates than does the Keynesian transmission mechansim
    d. All of the above
    e. Only (b) and (c)

4. A basic component of the monetarist's theory of inflationary recession is the idea that

    a. The long run trade-off between inflation and unemployment eventually requires 5% inflation to obtain 5% unemployment
    b. As people learn to expect a certain inflation rate, inflation has more and more effect on employment
    c. Once people learn to expect a certain rate of inflation, inflation has little effect on employment
    d. People soon learn to enjoy being unemployed
    e. None of the above

5. In a simplified Cambridge model, an excess supply of cash balances always results in

    a. A reduction in nominal income
    b. An increase in nominal income
    c. A reduction in real income
    d. An increase in real income
    e. None of the above

6. In a simplified Cambridge model, assuming everything else remains unchanged, the demand for money will rise if

    a. Prices rise
    b. Real income rises
    c. Nominal income rises
    d. All of the above
    e. None of the above

7. Monetarists feel that the Keynesian analysis of the demand for money omits sufficient consideration of:

    a. The interest rate
    b. The rate of inflation
    c. Changes in bond prices as interest rates change
    d. All of the above
    e. Only (a) and (c)

8. Friedman's case for a monetary rule is based on

   a. Primarily speculation at this point because no research has been done on the topic as yet
   b. Empirical evidence which he feels supports his position
   c. Theoretical analysis of the economy
   d. Both (b) and (c)
   e. None of the above

9. Keynesian economists feel that a tax cut may

   a. Increase real income
   b. Increase prices
   c. Reduce the rate of inflation
   d. All of the above
   e. Only (a) and (b)

10. It presently appears that the Keynesians have for all practical purposes won their debate with the monetarists because

    a. The ranks of the monetarists have decreased to such an extent that their philosophy exists only at the University of Chicago
    b. Most monetarists have become Keynesians
    c. All monetarists have been fired by the Federal Reserve
    d. Both (a) and (b)
    e. None of the above--it is not at all clear the Keynesians have won this debate

11. Monetarists contend that even if a government deficit is financed by selling bonds

    a. It is highly likely to cause inflation no matter how much unemployment exists
    b. It may very well not stimulate the economy because people should realize taxes will consequently soon increase
    c. It will not stimulate the economy because all government spending is a waste
    d. Both (a) and (b)
    e. None of the above

12. Monetarist economists feel that the Phillips curve is:

    a. A very useful economic tool
    b. Not very useful because monetary policy cannot alter the employment rate anyway
    c. Not very useful because monetary policy can only affect employment in the short run
    d. Not very useful because monetary policy can only alter employment in the long run by continually increasing the inflation rate
    e. None of the above

13. Keynesian economists contend that the velocity of money (the relationship between the demand for money and nominal income)

    a. Is not as stable as the monetarists contend
    b. Is not as stable as MPC
    c. Does not exist
    d. All of the above
    e. Only (a) and (b)

14. The Keynesian countercritique against the monetary rule includes which of the following?

    a. The Federal Reserve may not even have complete control over the money supply anyway and thus may not be able to enforce this rule
    b. The Federal Reserve is becoming more capable of avoiding mistakes over time
    c. Friedman's research glosses over many of the complexities of the economy
    d. All of the above
    e. None of the above

15. The monetarist criticisms of Keynesian economics attack which of the following parts of Keynesian economics?

    a. The Keynesian view that income levels above the full employment level are inflationary
    b. The Keynesian consumption function
    c. The Keynesian transmission mechanism
    d. All of the above
    e. Only (b) and (c)

16. Monetarists feel that wage and price controls

    a. Can never be successful
    b. Will generally be successful
    c. Will always make the economic situation worse
    d. Can be successful under certain limited sets of circumstances
    e. None of the above

17. The monetarist transmission mechanism indicates that an increase in the money supply will not increase spending on

    a. Financial assets
    b. Nonfinancial (i.e., real) assets
    c. Consumer nondurable goods
    d. Investment goods
    e. None of the above

18. Monetarists believed that the 1964 tax cut

    a. Would cause serious inflation
    b. Could by itself have little effect
    c. Would cause serious deflation
    d. Would stimulate the economy to overfull employment
    e. None of the above

19. According to the Classical Equation of Exchange, with nominal income at 1000, the price level at 4, velocity at 4, and the money supply at 250, if the money supply increased to 1000

    a. The price level would increase to 8
    b. Nominal income would increase to 2000
    c. Velocity would increase to 8
    d. (b) and (c) would occur simultaneously
    e. None of the above

20. Keynesians and monetarists differ over the

    a. Stability of the consumption function over time
    b. Stability of velocity over time
    c. Behavior of interest rates in response to monetary policy actions
    d. All of the above
    e. Only (a) and (b)

CHECK YOUR ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST ON PAGE 352.

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM B

1. c
2. c
3. e
4. c
5. b
6. d
7. b
8. d
9. e
10. e
11. b
12. d
13. e
14. d
15. e
16. d
17. e
18. b
19. e
20. d

DO NOT REQUEST THE END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC TEST WITHOUT ANY DIFFICULTY

VIII

ECONOMIC GROWTH
AND
THE ENVIRONMENT

OVERVIEW

Upon completion of the unit, you should be able to demonstrate (1) an understanding of the following problems and their implications: externalities or spillovers, population growth, pollution and environmental decay, urban problems, and economic growth; (2) an awareness of the applicability (and the limits thereof) of economic analysis to these problems; and (3) an understanding of the alternative solutions to these problems and of their relative merits.

The main things that you should perceive are how economics can be useful in discussing the above problems, the potential solutions to such problems, and the extent to which these and similar problems have economic aspects. You should be aware that these particular aspects are just examples of the areas of our society to which economic analysis can be usefully applied. They have been included to help you look at other aspects of our existence from the point of view of economics.

Essentially, then, these are the final attempts in this course at familiarizing you with the economic way of thinking. You should by now, then, be familiar enough with this way of looking at the world to move on to ECO 202, which elaborates on that important topic: how to look at things from the economic point of view.

PERFORMANCE OBJECTIVES

1. Define positive and negative externalities or spillovers and/or identify examples of these concepts.

2. Given economic models where positive or negative externalities exist, determine the free market equilibrium and socially optimal production points, and recommend the most appropriate policies to alleviate the adverse effects of these spillovers.

3. Demonstrate an understanding of pollution control strategies by:

   a. Identifying economic definitions of pollution and of optimal pollution levels
   b. Identifying strategies currently recommended by economists for reducing pollution
   c. Evaluating current pollution control recommendations
   d. Solving pollution control models

4. Demonstrate an understanding of alternative theories of population growth by:

   a. Identifying various optimal population levels for this country and their relationship to each other
   b. Identifying weaknesses of the Club-of-Rome--M.I.T. study
   c. Identifying methods of determining population growt rates
   d. Identifying reasons why the typical population S-curve does not seem to be applicable to humans
   e. Defining the net reproduction rate and predicting the result when it is below, equal to, or above one
   f. Predicting the results of negative population growth
   g. Identifying reasons why Malthus's predictions have proved incorrect thus far for the developed nations
   h. Identifying recommendations of the commission on population growth and the American future

5. Demonstrate an understanding of alternative theories of economic growth by:
    a. Identifying and evaluating arguments for and against zero economic growth
    b. Identifying relationships between capital accumulation and property rights
    c. Identifying factors responsible for economic growth
    d. Identifying implications of the Club-of-Rome/M.I.T. Study for economic growth
    e. Evaluating trade-offs between the production of present and future goods

6. Demonstrate an understanding of conservation issues by:
    a. Defining free riders, public or collective goods, private goods, and common property resources
    b. Identifying relationships between public or collective goods, and private resources and the need for conservation measures
    c. Predicting the effect of certain conservation measures on demand schedules for related products

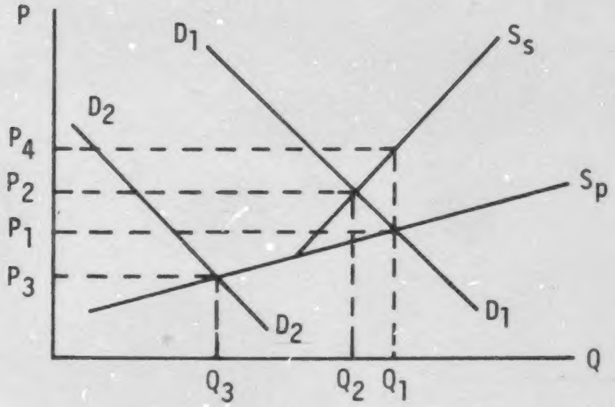
7. Demonstrate an awareness of the diversity of population growth rates in different nations by identifying:
    a. Nations which have birth, death, or growth rates similar to the U.S.
    b. Nations which have birth, death or growth rates which are dissimilar to the U.S.
    c. The relative rankings of such nations

8. Given specific urban problems, identify probable causes or predict the effect of a recommended solution to the problem.

9. Demonstrate an understanding of the distinction between traditional pollution problems and environmental decay by:
    a. Identifying the views of economists such as Barkley and Seckler
    b. Predicting the effect of technological advance on both traditional pollution problems and environmental decay
10. Identify examples, characteristics, or results of the problems markets experience when contracting becomes difficult.
11. Identify economic reasons for the existence of cities.
12. Identify economic features and/or implications of the "Fox Episode."

SELF-DIAGNOSTIC TEST FORM A

ANSWER QUESTIONS 1 TO 3 ON THE BASIS OF THE FOLLOWING INFORMATION FOR PRODUCT X. ASSUME THAT THE DEMAND CURVE FOR THE PRODUCT REPRESENTS THE VALUE (OR BENEFITS) YIELDED BY THE PRODUCT.



1. If the demand curve for product X is represented by the D_1D_1 demand curve, the free market equilibrium will be:

   a. P_3 and Q_3
   b. P_2 and Q_2
   c. P_1 and Q_1
   d. P_4 and Q_1
   e. None of the above

2. With demand represented by demand curve D_1D_1, the socially optimal point of production will be

   a. P_2 and Q_2
   b. P_1 and Q_1
   c. P_3 and Q_1
   d. P_1 and Q_4
   e. None of the above

3. If demand is instead represented by D_2D_2,

   a. Pollution will be below the socially optimal level
   b. Pollution will exist but society is willing to accept this pollution to get the product
   c. Pollution will be excessive because of the small scale at which the industry is forced to operate
   d. The industry will be one which produces without polluting
   e. None of the above

4. A peak-load surcharge would cause

   a. A better distribution of income
   b. A better allocation of resources
   c. A poorer allocation of resources
   d. No change in the allocation of resources
   e. None of the above

5. Agglomeration economies are economies of scale which come about because of, among other things,

   a. The increased market size in urban areas
   b. The increased population density of urban areas
   c. The prevalence of peak-load pricing as a method of preventing automobile congestion in large urban areas
   d. Both (a) and (b) above
   e. None of the above

6. When contracting becomes difficult or expensive, we expect that

   a. Social and private costs will diverge
   b. Social costs will be less than private costs
   c. Social and private costs will merge
   d. Private costs will become very large
   e. None of the above

7. Television and radio signals are, at the present time in the U.S.,

   a. Public goods because they can be easily transmitted
   b. Goods which would be ideal collective goods because the marginal cost of an additional user is zero, but in our society they are not presently treated as such
   c. Public goods because they can be easily received
   d. Pure public goods because they are tied to advertising
   e. None of the above

8. An increase in wilderness areas will

   a. Lead to an inward shift in the demand curve for wood products
   b. Cause an inward shift in the demand schedule for houses
   c. Lead to an outward shift in the demand schedule for wood substitutes
   d. All of the above
   e. None of the above

9. Depending on the value judgments which are used, the optimum population for the U.S. could be

   a. 50 million
   b. Our present population
   c. That population which maximizes our per capita real output
   d. That population size which will be sufficient to colonize space and spread the American way to the stars when technology advances far enough
   e. All of the above

10. Economically, pollution is defined as:

   a. Any discharge of effluents into the environment
   b. Any discharge of harmful effluents into the environment
   c. Discharge of effluents which permanently damage the environment
   d. Any irreversible decision altering the environment away from its natural state

11. The rate of population growth can be found by:

    a. Subtracting the crude birth rate from the crude death rate
    b. Subtracting the crude death rate from the crude birth rate
    c. Dividing the crude birth rate by 1000
    d. Subtracting the crude death rate from the crude birth rate and dividing by 10
    e. None of the above

12. The opponents of Zero Economic Growth all too often fail to sufficiently consider the possible merits of

    a. The increases in demand for some products as life styles changes under ZEG
    b. The increases in demand for some products as leisu time increases under ZEG
    c. The reduction in the demand for some products as our population ages under ZEG
    d. All of the above
    e. Only (a) and (b)

13. Which of the following is not a positive spillover from higher education?

    a. Higher income to those who go to college
    b. A more informed citizenry
    c. A more educated public
    d. Less crime committed
    e. None of the above--they are all positive spillovers from higher education

14. Most economists feel that the most efficient way to reduce pollution is the

    a. Approach of requiring the best known anti-pollution device to be used at all pollution sources
    b. The subsidy approach
    c. The regulation approach
    d. Effluent fee (or effluent tax) approach
    e. None of the above

15. We can necessarily expect more capital accumulation by the private market sector if

    a. It appears war will shortly be declared
    b. Property rights are indefinite
    c. Property rights are very definite and private
    d. There are no property rights
    e. None of the above

16. Which of the following nations has the highest crude death rate?

    a. U.S.
    b. Israel
    c. Ireland
    d. Costa Rica
    e. U.S.S.R.

17. Which of the following nations has the highest rate of population increase?

    a. U.S.
    b. East Germany
    c. Mexico
    d. Denmark
    e. Vietnam

18. The now semiretired "Fox"

    a. Was Batman and Robin's dog
    b. Devised a rather ingenious plan for obtaining more news coverage of pollution
    c. Is a retired army major and economist who refuted the Club of Rome study
    d. Refers to Ralph Nader in the days before he started his lecture tours
    e. None of the above

19. It is forseeable that technological advance

    a. Can solve our traditional pollution problems
    b. Will have great difficulty solving the problem of environmental decay
    c. Could cause worse pollution in the future
    d. All of the above
    e. Only (b) and (c)

20. Given a randomly selected underdeveloped nation, which of the following would most likely result in the largest increase in its economic growth rate?

    a. An increase in its food supply
    b. An increase in its human capital
    c. An increase in its stock of physical capital
    d. An increase in its supply of natural resources
    e. An improved military defense

21. The Club of Rome/M.I.T. study:

    a. If correct, shows we are indeed in for serious trouble
    b. Raises some rather staggering questions which should be answered
    c. Definitely proves continued growth will be suicide for the human race
    d. All of the above
    e. Only (a) and (b)

22. The bribery approach to pollution control:

    a. Could be economically efficient if transaction costs were zero and there were no free riders
    b. Would be completely equitable if transaction costs were zero and there were no free riders
    c. Is a perfectly fair and efficient method of pollution control
    d. All of the above
    e. Only (a) and (b)

ANSWER THE QUESTIONS 23 AND 24 ON THE BASIS OF THE FOLLOWING SET OF POLLUTION CONTROL STRATEGIES:

1. Allowing the free market to work and relying on bribery
2. Direct regulation
3. Regulation via requiring the best known anti-pollution technology to be utilized
4. Subsidies
5. Effluent fees

23. Which of the following statements is most accurate

    a. Only effluent fees have any economic merit
    b. All have some economic merit
    c. Only the bribery method (method #1) has no economic merit
    d. All but #1 and #4 have some economic merit
    e. None has any economic merit

24. Which of the following statements is most accurate

    a. None of them have any merit
    b. They all have some merit
    c. All but #1 and #4 have merit
    d. All but #1 have merit
    e. Only effluent fees have any merit

25. According to traditional economists, weaknesses of the Club of Rome/M.I.T. study include:

    a. The same kind of reasoning that led Malthus to predict similar problems 150 years ago
    b. Failure to include the role of relative price changes as certain resources became scarce
    c. The unwarranted assumption that pollution control technology will remain constant
    d. All of the above
    e. Only (a) and (b)

CHECK ANSWERS BY TURNING TO THE ANSWER KEY FOR FORM A OF THE SELF-DIAGNOSTIC TEST

ANSWER KEY -- SELF-DIAGNOSTIC TEST FORM A

1. c
2. a
3. d
4. b
5. d
6. a
7. b
8. c
9. e
10. c
11. d
12. e
13. a
14. d
15. c
16. a
17. c
18. b
19. d
20. b
21. e
22. a
23. b
24. b
25. e

TURN TO STUDY DIRECTORY

STUDY DIRECTORY

Textbook: Economics Today. Roger Leroy Miller. Canfield Press, 1973, pp. 635-703.

Objectives	Test Items	Textbook Pages	Supplemental Materials		
			Study Guide Pages	Tape	
				Number	Section
1	13	635-644	369-372	14	1
2	1-3	635-644	369-372	14	1
3	14, 22-25	654-663	373-374	14	2
4	9-11	674-689	none	none	none
5	12, 15, 20 21	691-703	none	none	none
6	7, 8	635-652	none	none	none
7	16, 17	675-689	none	none	none
8	4	666-673	369-374	14	1, 2
9	19	654-663	none	14	3
10	6	654-663	none	none	none
11	5	666-673	none	none	none
12	18	664-665	373-374	14	none

SUPPLEMENTAL MATERIALS

As in preceding units, the supplemental materials for Unit VIII have been recorded on audiotape. Diagrams to be used with these tapes begin on the following page. The tape will direct you to the appropriate diagrams for each segment of the tape.

Audiotape number 14 is to be used with Unit VIII.

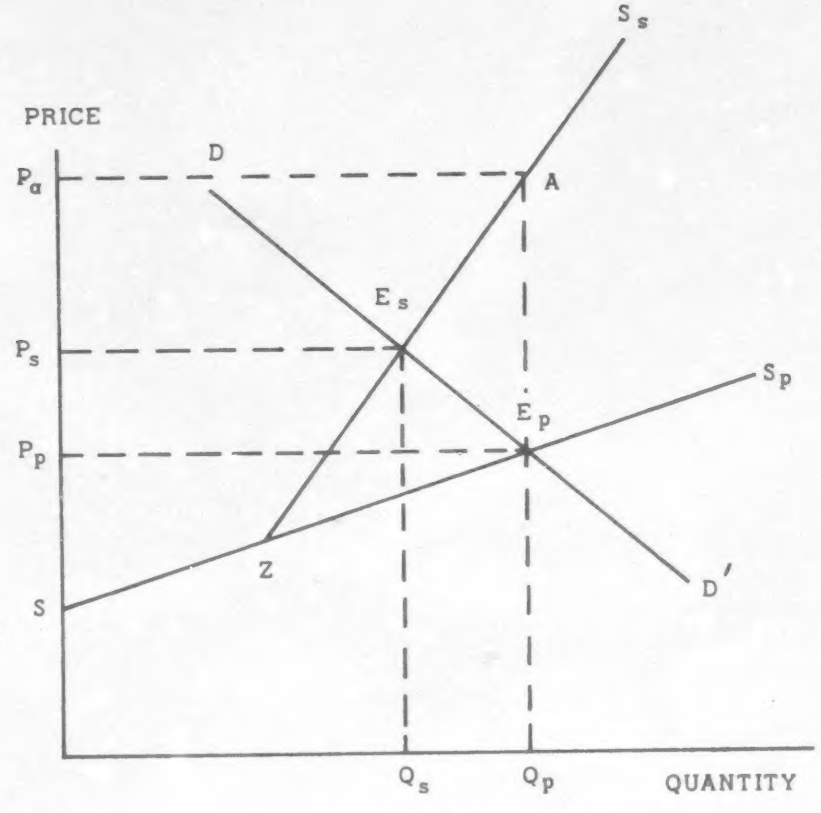
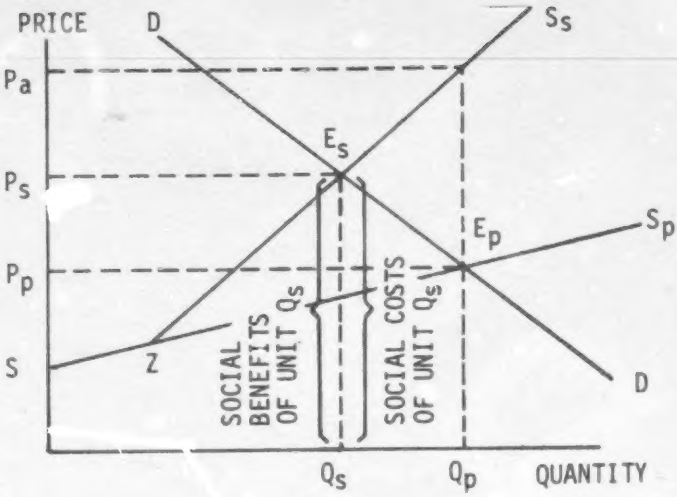
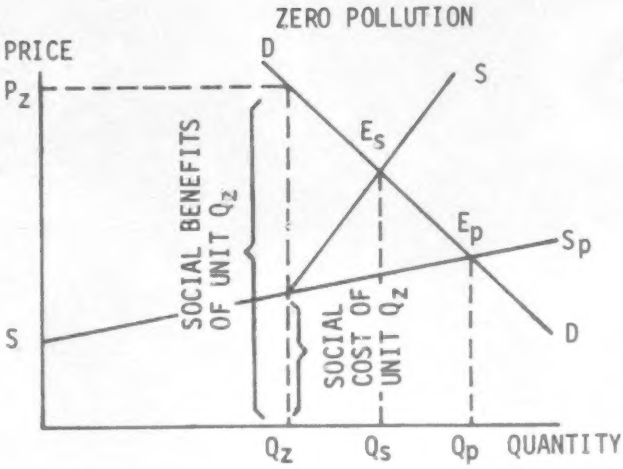


Fig. 8-1: A market where social and private costs diverge. This model assumes the demand curve represents the benefits or value of the product.

(TO BE USED WITH SECTION 1 OF UNIT VIII TAPES)



PART A



PART B

Fig. 8-2: Pollution as a negative spillover, assuming the demand curve represents the benefits or value of the product.

(TO BE USED WITH SECTION 1 OF UNIT VIII TAPES)

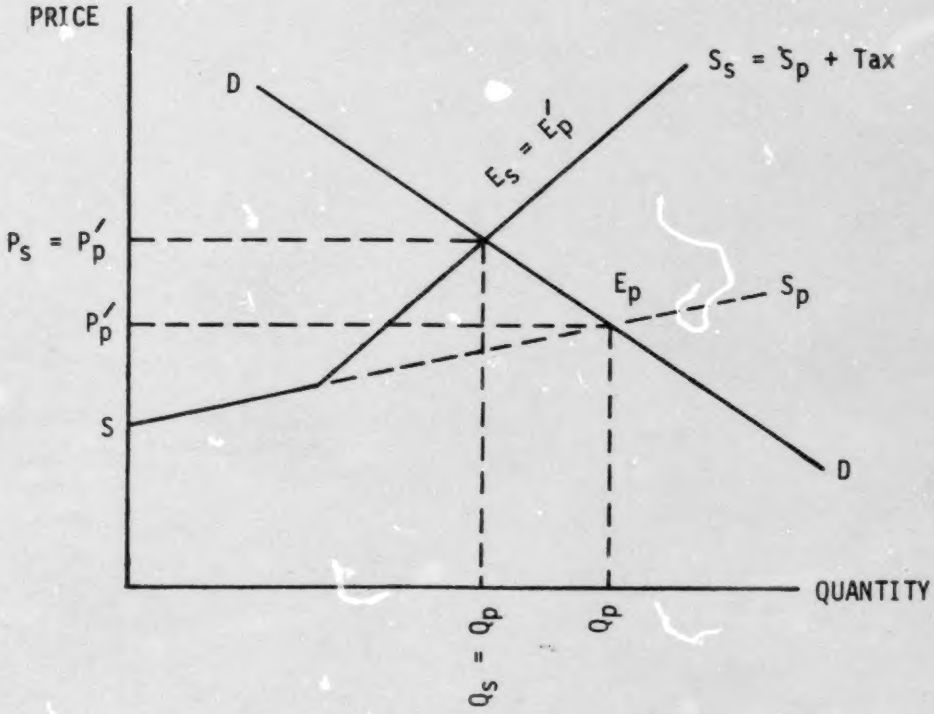
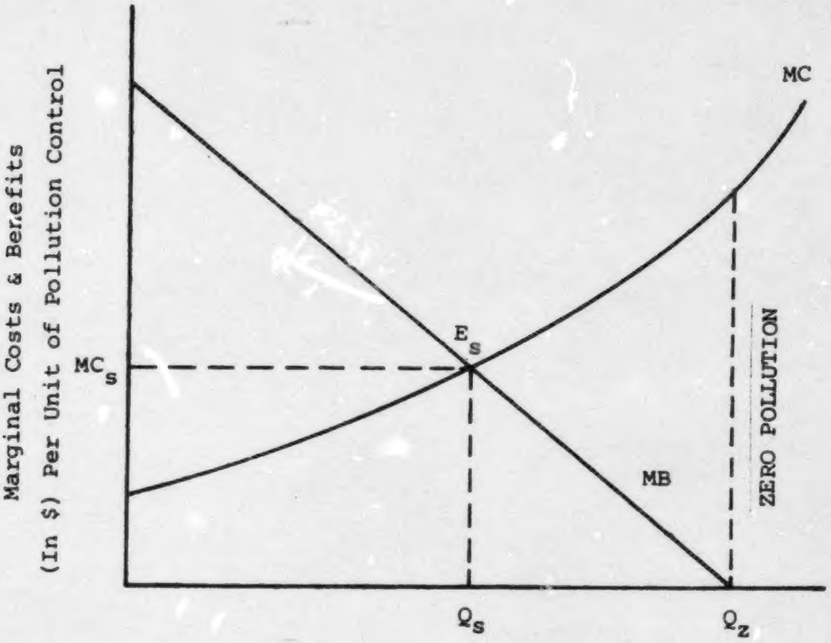


Fig. 8-3: An Effluent Tax. After the tax is passed, the private cost (including the tax) increases to the social cost.

(TO BE USED WITH SECTION 1 OF UNIT VIII TAPES)



UNITS OF POLLUTION CONTROL

Fig. 8-4: Pollution Control

(TO BE USED WITH SECTION 1 OF UNIT VIII TAPES)

A. The Population Growth Rate = (Crude Birth Rate-Crude Death Rate)/10

B. Examples:

Crude Birth Rate	Crude Death Rate	Population Growth Rate
50	10	4% *
40	20	2%
30	30	0%
20	40	-2%

*(50-10)/10 = 40/10 = 4. Since we know the population growth rate is in percent, this is 4%. More explicitly, if 50 people are born per 1000 people, 5 are born per 100. If 10 die per 1000 people, 1 dies per 100. Thus 4 new people came into existence (in a net sense) for each 100 people and the population grows at 4% per year.

Example 8-1. Population Growth

(TO BE USED WITH SECTION 2 OF UNIT VIII TAPES)

TABLE 8-1

ZERO POPULATION GROWTH--THE CASE FOR AND AGAINST

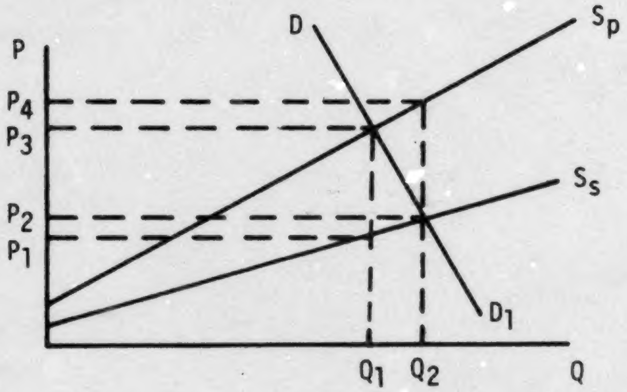
The Case Against	The Case For
1. An increase in the average age of our population	1. Resources would be depleted at a slower rate
2. Difficulty for the young to find good jobs	2. The possibility of a new and perpetual prosperity
3. A possibility of continued or recurring recession	3. A reduction in crowding
4. This same doom-mongering has arisen periodically since Malthus	4. Malthusian population economics has never been proven wrong

(TO BE USED WITH SECTION 2 OF UNIT VIII TAPES)

AFTER STUDYING THE RELEVANT TEXTBOOK AND STUDY GUIDE MATERIAL FOR EACH OBJECTIVE, TAKE THE SELF-DIAGNOSTIC TEST FORM B. CHECK YOUR ANSWERS AGAINST THE ANSWER KEY FOR THE SELF-DIAGNOSTIC TEST FORM B FOR ANY ITEMS ANSWERED INCORRECTLY. CONSULT THE STUDY DIRECTORY FOR SPECIFIC PAGES OF THE TEXT AND/OR STUDY GUIDE WHICH ARE RELEVANT TO THE OBJECTIVES ASSESSED BY THOSE TEST ITEMS. DO NOT ATTEMPT THE FORMAL END-OF-UNIT TEST UNTIL YOU ARE ABLE TO ANSWER ALL ITEMS ON THE SELF-DIAGNOSTIC TEST CORRECTLY.

SELF-DIAGNOSTIC TEST FORM B

ANSWER QUESTIONS 1-3 ON THE BASIS OF THE INFORMATION BELOW. ASSUME THE DEMAND CURVE REPRESENTS THE VALUE (OR BENEFITS) YIELDED BY THE PRODUCT.



1. In this industry the free market solution would be

   a. P_1Q_1
   b. P_3Q_1
   c. P_2Q_2
   d. P_4Q_2
   e. None of the above

2. In this industry, the socially optimal solution would be

   a. P_1Q_1
   b. P_3Q_1
   c. P_2Q_2
   d. P_4Q_2
   e. None of the above

3. The output of the product in question should be:

   a. Reduced to force producers and/or consumers to pay for the negative spillovers they cause
   b. Reduced to punish polluters
   c. Increased to reward those who produce or consume the product for the positive spillovers the product causes
   d. Increased so more negative spillovers can be produced
   e. None of the above

4. The quantity of motoring demanded is greater than the socially optional quantity because:

   a. Automobiles are too fast
   b. There are too many automobiles
   c. Drivers like to drive so much they would drive regardless of the costs involved
   d. Drivers pay only the private costs of motoring instead of the full social costs
   e. None of the above

5. Businesses tend to locate in urban areas because

   a. Land costs more in these areas
   b. Population density is higher there
   c. Traffic congestion is generally concentrated in peak hours
   d. Both (a) and (b)
   e. None of the above

6. To think of children as an investment good

   a. Is a morally deficient idea invented by the Ford administration
   b. Makes some sense in an agricultural society where land is plentiful
   c. Does not make much sense for the U.S. today with its urban lifestyle and social security laws
   d. All of the above
   e. Only (b) and (c)

7. The "free rider problem" refers to

   a. Children who sneak on the merry-go-round without paying
   b. The increasing tendency for government to pay for more and more goods and services--soon all people will get a "free ride"
   c. The desire of some people to pay for everything
   d. The desire of some people to avoid paying their share of the costs of collective goods that they use
   e. The increased incidence of crimes committed by hitchhikers in urban areas

8. Overfishing in the ocean has probably resulted because

   a. Fishermen have a tendency to take more than they need
   b. Ocean waters and the fish therein have been common property
   c. Fishermen have a tendency to use too many nets
   d. Ocean waters and the fish therein have been private property
   e. Both (a) and (c)

9. The main reason the typical population S curve does not seem to be holding for humans is that

   a. Humans possess the ability to alter their environment
   b. Human morals are so deficient--only humans are sexually unfaithful to their mates
   c. Humans are much more fertile than other species
   d. Malthus predicted it would happen
   e. None of the above

10. Economically, pollution is

   a. Always undesirable
   b. Sometimes desirable
   c. Always an inefficient use of resources
   d. Sometimes an inefficient use of resources
   e. Both (b) and (d)

11. The net reproduction rate is equal to one when:
    a. One daughter and one son are born per female on average
    b. one daughter is born for each female on average
    c. Every mother is sterilized after having two children
    d. Every mother has two sons and a daughter
    e. None of the above

12. A basic component of the ZEG argument is the fact that:
    a. Most businessmen are megalmaniacs
    b. Economic growth causes pollution to increase
    c. The earth is a finite space and therefore simply cannot accommodate perpetual economic growth
    d. All of the above
    e. Only (b) and (c)

13. When negative external costs (i.e., negative spill-overs) exist
    a. The free market produces too much of the product
    b. The social costs of the activity in question are lower than the private costs
    c. The output of the product in question should always be zero
    d. Common property is identical with private property
    e. None of the above

14. The pollution control method that most closely corresponds to our present E.P.A. approach is the:
    a. Regulation approach
    b. Effluent fee approach
    c. Bribery approach
    d. Subsidy approach
    e. Kneese-Friedman approach

15. Given a production possibilities curve between present goods and future goods:
    a. There is no trade-off between the two
    b. It is obvious that we should opt for more future goods
    c. It is obvious that we should opt for more present goods
    d. We are normally outside the frontier
    e. None of the above

16. Which of the following countries has the lowest crude death rate?
    a. U.S.
    b. Israel
    c. Iceland
    d. Costa Rica
    e. U.S.S.R.

17. Which of the following nations has the highest rate of population increase?
    a. U.S.
    b. Denmark
    c. France
    d. Sweden
    e. East Germany

18. The basic economic significance of the activities of "The Fox" is that:
    a. Pollution of the Fox River was halted
    b. "The Fox" was eventually arrested and punished
    c. "The Fox" got away with his activities, unapprehended
    d. His activities demonstrated that there were direct methods of drawing attention to pollution
    e. Numerous government lawsuits eventually closed the steel mills of Aurora, Illinois

19. According to economists like Barkley and Seckler,

    a. The problem of environmental decay goes much beyond the traditional pollution problem
    b. The world will come to an end by the year 2000 unless we make some drastic changes
    c. Economic growth will eventually solve all of man's problems
    d. Both (a) and (c)
    e. None of the above

20. According to recent empirical studies, which of the following has contributed most to the growth in per capita income which has occurred in the U.S.

    a. Population growth
    b. Growth in the capital stock
    c. Technological advance and education
    d. Discoveries of new sources of raw materials
    e. Improvements in our understanding of economics

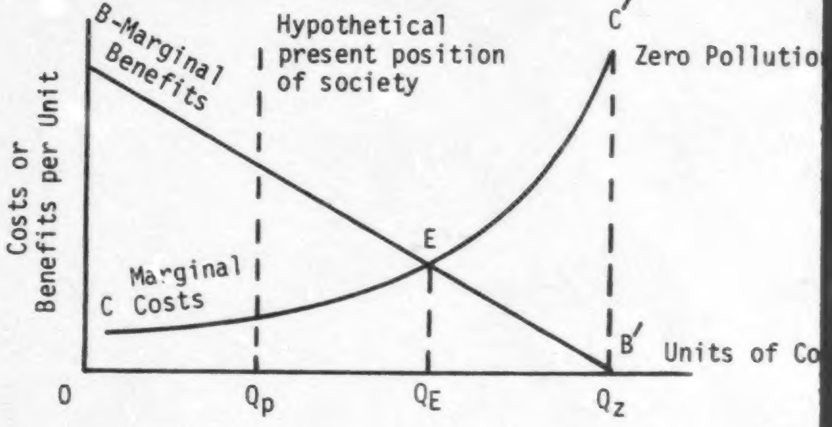
21. The Club of Rome/M.I.T. study

    a. Presents a frightening picture of what might occur in the future
    b. Contains a sufficient number of economic errors which makes its validity suspect
    c. Makes predictions similar to those which have been made in the past but which have never held true for Western nations
    d. All of the above
    e. None of the above

22. The direct regulation approach to pollution control is criticized on an economic basis because it is unlikely to:

    a. Control pollution at all
    b. Be economically efficient
    c. Be equitable
    d. All of the above
    e. Only (b) and (c)

ANSWER QUESTIONS 23 AND 24 ON THE BASIS OF THE INFORMATION BELOW:



23. If society is presently purchasing Q_P units of pollution control, economically, the socially optimal pollution control point would be:

    a. To remain at Q_P--if it were not optimal we would not be there
    b. Q_E--this is the efficient point
    c. Q_Z--pollution must be eliminated
    d. It is impossible to answer the question with only the information given
    e. None of the above

24. If the information given is accurate, the income distribution is fair, all the assumptions underlying the model are fulfilled, and when all noneconomic factors are also considered, society would wish to:

    a. Stay at the economically optimal point
    b. Move beyond the economically optimal pollution control point
    c. Reduce control below the economically optimal pollution control level
    d. There is insufficient information to answer this question
    e. None of the above

25. According to many traditional economists, Malthus's prediction has proved wrong to date for Western Society because

a. He ignored technological advance
b. Man's sex drive has decreased
c. He was not a very good mathematician
d. Promiscuity has vanished from our society
e. Malthus never existed but was a fictional character invented by George Orwell

CHECK YOUR ANSWERS BY TURNING TO ANSWER KEY FOR FORM B OF THE SELF-DIAGNOSTIC TEST

SELF-DIAGNOSTIC TEST FORM B

1. b
2. c
3. c
4. d
5. b
6. e
7. d
8. b
9. a
10. e
11. b
12. e
13. a
14. a
15. e
16. d
17. a
18. d
19. a
20. c
21. d
22. e
23. b
24. a
25. a

DO NOT REQUEST END-OF-UNIT TEST UNTIL YOU CAN ANSWER ALL ITEMS ON BOTH FORMS OF THE SELF-DIAGNOSTIC TEST WITHOUT ANY DIFFICULTY